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ABSTRACT

This manual is one of four self-contained components of a larger handbook designed to assist secondary and postsecondary instructors and support staff in meeting the needs of limited-English-proficiency (LEP) students in vocational training programs. Together with an accompanying set of vocational English as a second language (VESL) vocabulary cards, the guide not only provides essential technical vocabulary in computer literacy needed by the LEP vocational student to participate more confidently and successfully in training and on the job, but also suggests practical activities for using the vocabulary in a variety of settings. Chapters address the following topics: the elements of memory, meaning, and motivation in vocabulary development; using the vocabulary cards; the parts and functions of a computer; computer abbreviations; floppy disks; vocabulary exercises; programming languages; flowcharts; and employability skills. Additional exercises, a computer literacy vocabulary list, a resource list of additional teaching strategies for vocabulary development, and an annotated bibliography are appended. The VESL cards are printed on separate sheets at the back of the manual together with two pages of illustrations to go with the cards. (MSE)

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COMPUTER LITERACY

HANDBOOK TO ACCOMPANY VESL VOCABULARY CARDS

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Made available through an Arizona Department of Education project funded through Vocational Disadvantaged monies under PL 94-482.

JUNE 1984

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ACTIVITIES FOR VESL VOCABULARY CARDS

COMPUTER LITERACY

Arizona Department of Education

Carolyn Warner, Superintendent

Dr. Jim Hartgraves, Deputy Superintendent
Mr. Jchn Lange, Deputy Superintendent for Vocational Education

JUNE 1984

TABLE OF CONTENTS

		Page
I.	VOCABULARY: MEMORY, MEANING, MOTIVATION	1
II.	USING THE VESL VOCABULARY CARDS	3
III.	PARTS AND FUNCTIONS OF A COMPUTER	6
IV.	COMPUTER ABBREVIATIONS	20
V.	FLOPPY DISKS	23
VI.	GETTING DOWN TO BUSINESS AND PLEASURE	28
VII.	PROGRAMMING LANGUAGES	35
VIII.	FLOWCHARTS	37
IX.	EMPLOYABILITY SKILLS	41
X.	ADDITIONAL ACTIVITIES	52
XI.	APPENDIX A - COMPUTER LITERACY VOCABULARY LIST	57
XII.	APPENDIX B - VOCABULARY EXERCISES: A RESOURCE LIST	60
XIII.	ANNOTATED BIBLIOGRAPHY	63

The financial support for this handbook is provided by the Program Support Unit of the Arizona Department of Education through a project funded with Vocational Disadvantaged Monies under P.L. 94-9482.

The Program Support Unit in the Arizona Department of Education is the vehicle through which technical assistance and funding for vocational program development and improvement to serve individuals with limited English proficiency is provided. Because of limited availability of resources and funds, this unit has been organized to combine resources and vocational funding available through ADE (Disadvantaged, Handicapped, Guidance, Vocational Equity, Displaced Homemakers, and Support Services for Women) to serve special populations and provide support services to vocational students. The listing below shows the individuals responsible for the various areas:

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Please feel free to call on these individuals for technical assistance and program information.

PREFACE

The purpose of this handbook is to aid secondary and post-secondary instructors and support staff to meet the needs of limited English proficient (LEP) students in vocational training programs.

The handbook is an outgrowth of the concern for LEP vocational students who often experience language difficulty not only on the job, but in the vocational training classroom.

This handbook hopefully provides the essential technical vocabulary needed by the LEP vocational student to participate more confidently and successfully in training, and ultimately, on the job. In addition, the handbook suggests many practical activities for using the vocabulary in a variety of classroom settings.

The handbook is based on the premise that adults will effectively acquire a second language when:

. it is relevant to their immediate needs (a job);
. it is learner-centered; and
. ample practice and reinforcement are provided.

The handbook consists of four separately bound manuals:

. Activities for VESL Vocabulary Cards - Food Service
. Activities for VESL Vocabulary Cards - Computer Literacy
. Activities for VESL Vocabulary Cards - Automotive Mechanics
. Activities for VESL Vocabulary Cards - Nursing Assistant

We hope the handbook provides the needed information to implement quality vocational training for the LEP learner.

PREFACE

In compiling the handbook, we wish to acknowledge our indebtedness to others whose knowledge and effort made the endeavor possible.

- Mr. Stewart Miller
  Director, Program Support Unit, Arizona Department of Education
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- Mr. Jim Purvis
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VOCABULARY: MEMORY, MEANING, MEMORIZATION

Control over vocabulary does not result from mere memorization of words, although that is one logical first step, especially for second language learners. Studying spelling and practicing pronunciation both contribute to communication, either oral or written, even though neither activity presumes knowledge of meaning on the part of the speaker or writer.

Neither can a learner depend entirely on his or her own limited vocabulary or syntax, since she/he will not always be just speaking or writing:

> "Listening and reading require a wider knowledge of vocabulary and grammar, since the learner cannot limit others' speech and writing to his or her own linguistic knowledge."
>
> Guntermann, 1982

Despite the different emphases for different vocational areas, students will need to address all the language modes (listening, speaking, reading, writing) to some extent.

Establishing meaning is a longer process than memorization, and to be truly effective it must be an active process on the learner's part. There are many ways to establish the meaning of vocabulary (Mrowicki and Dehesus, 1981):

1. objects
2. illustrations (photographs, drawings, slides, etc.)
3. context
4. actions
5. explanations (synonyms and definitions)
6. translation (native language)
7. oral stimulus, physical response
8. oral stimulus, oral or written response

Many of these techniques will be utilized in the general suggestions and specific exercises for the four vocational areas included in this handbook.

In preparation for student vocabulary learning and practice, VESL teachers may want to pre-teach the following structures which appear with frequency in definitions:

- past participles used as adjectives (e.g. money spent, written promises)
- passive voice (is used to, is made by)
- gerund (preserving food, adding up, moving goods)
- infinitive to define verbs (e.g. delegate: to give a task to someone else to do)
- modals, especially can and must (can be divided, can be bent)

The final key to vocabulary learning is motivation on the part of the student. This can be achieved through the use of a variety of exercises to maintain interest, and through hands-on practice whenever possible. Motivation is enhanced for LEP students by the learning of useful and applicable knowledge, in this case occupation-specific vocabulary. Another way to keep motivation high is by having the student work along on exercises for which answers are provided for self-correction:

> "Prediction of meanings and verification of meanings by the use of dictionaries [Note: Here also the VESL vocabulary cards and answer keys for the exercises] are probably more crucial skills to develop than the skill of listening to explanations of words since it teaches students how they can be self-sufficient."
>
> Fanselow, 1980

USING THE VESL VOCABULARY CARDS

For the VESL Teacher:

The VESL vocabulary cards can be a ready resource for individualizing language practice for LEP students involved in different vocational areas. They can be used for practicing difficult sounds in pronunciation, spelling practice, alphabetizing, and for making example sentences illustrating particular English language functions or structures. In addition, they can be used for the development of vocabulary worksheets, puzzles, and games for reinforcement and mastery.

For the Vocational Teacher:

It is generally the vocational instructor's job to teach technical vocabulary, but LEP students' problems in learning the terminology are hampered by their general language deficiencies, making these extra vocabulary exercises of additional benefit.

In general, the VESL cards may be used for:

1. Pre-teaching of specific units of instruction
2. Reinforcement or augmentation of currently taught topic or concept
3. Review of units or topics

For the LEP Student:

1. Cards may be selected for study that pertain to a particular topic or unit of instruction.
2. Study vocabulary for short periods at several different times for the most effective learning, rather than studying in one long learning session.
3. Different textbooks and instructors may emphasize some additional terms, so it helps to keep a cardbox or notebook of new vocabulary. Add new words as they are learned. These terms can be written on

cards with the same format as the existing cards.

4. It often helps to make flashcards with the term on one side and the definition on the other side. Just the practice of writing out words is very reinforcing for learning.

COMPUTER LITERACY

COM-PUT-ER- LIT-ER-A-CY

THE KNOWLEDGE AND ABILITY TO USE A COMPUTER SYSTEM

COMPUTER LITERACY INCREASES THE OPPORTUNITY TO USE COMPUTERS AS A TOOL TO ENRICH OUR PERSONAL AND PROFESSIONAL LIVES.

Computer literacy has many different meanings. For some, it means using computers as machines, for example, a clerk doing data entry. For others, it is a tool, as with a computer operator who transmits and receives data. Others use computers as creative instruments, as a programmer does in his or her work.

Whatever the purpose or situation, computer literacy involves being familiar with computer vocabulary, concepts and operation to: 1) feel comfortable using the computer as an aid in solving problems; 2) use the computer as an instructional tool; and 3) utilize the computer for innovative and productive purposes.

VESL VOCABULARY EXERCISES: PARTS AND FUNCTIONS OF A COMPUTER

I. Alphabetize the following words:

disk drive	modem	text
printer	input/output	data
monitor	byte	microprocessor
keyboard	bug	circuit board
chip		

II. Pronunciation practice: Say the following words out loud to your teacher or a friend who speaks English well.

memory	backup	dot matrix printer
access	hooked up	input
peripherals	retrieve	scroll
initialize	cursor	tutorial
execute	user friendly	display

III. The physical components of a computer system are called hardware.

A) Label the hardware components on the following page.

B) Orally describe the function of each component.

If you need help, refer to page 50 and your vocabulary definitions.

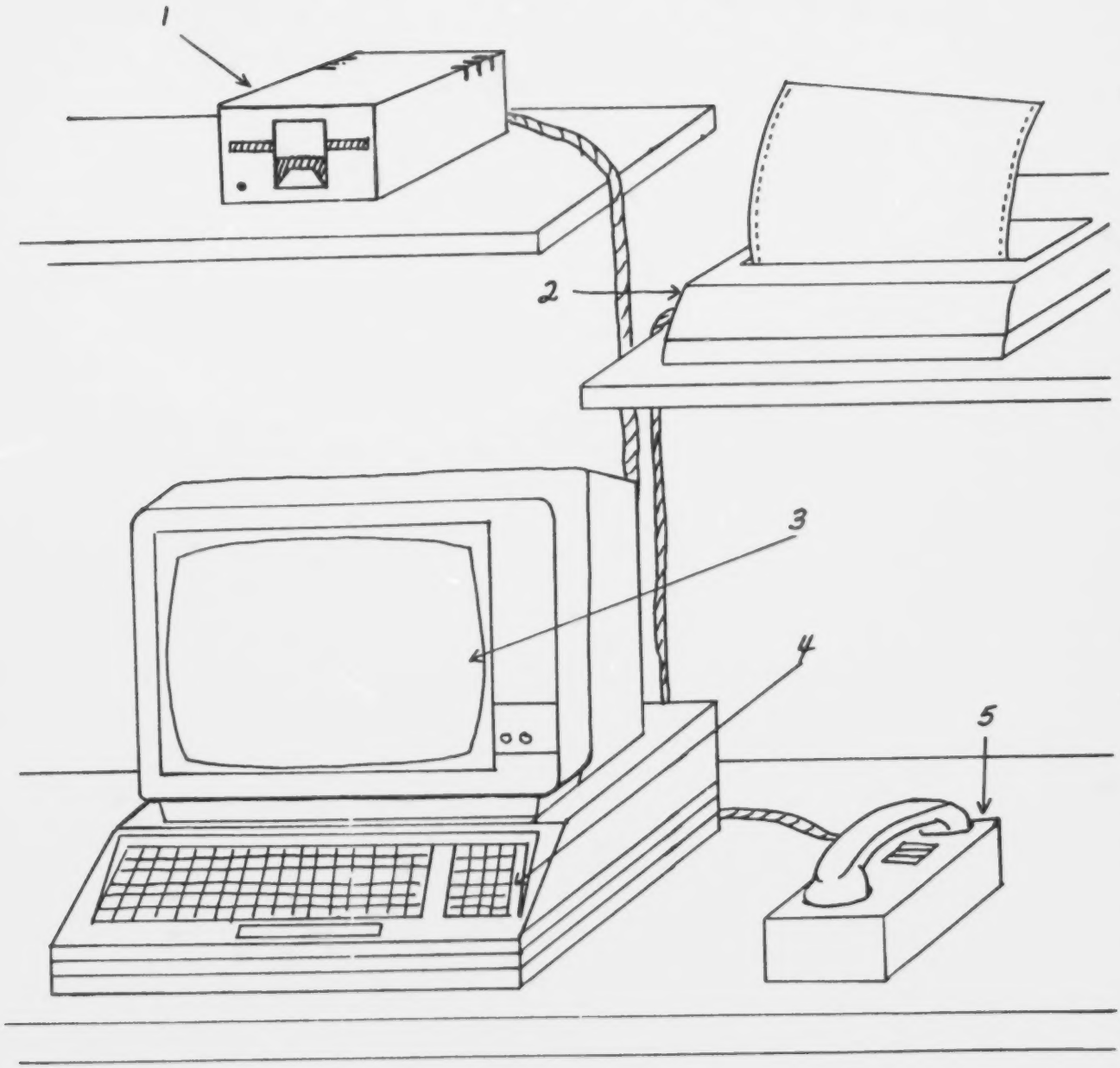
1. _____

2. _____

3. _____

4. _____

5. _____



THE HARDWARE COMPONENTS OF A COMPUTER

IV. Match the word in column A to the word or phrase in column B that has the same meaning.

COLUMN A	COLUMN B
4 data	1. enter
_____ memory	2. attachment
_____ bug	3. electronic circuits
_____ input	4. information
_____ peripheral	5. a copy
_____ chip	6. error
_____ user	7. start
_____ boot	8. store
_____ backup	9. move
_____ scroll	10. person

V. Identify input, output, and storage devices. Put an I if it is an input device, O if an output device and S if it is a storage device.

1. keyboard I
2. monitor _____
3. disk drive _____
4. printer _____
5. modem _____
6. disk _____

VI. Give an example of each of the following:

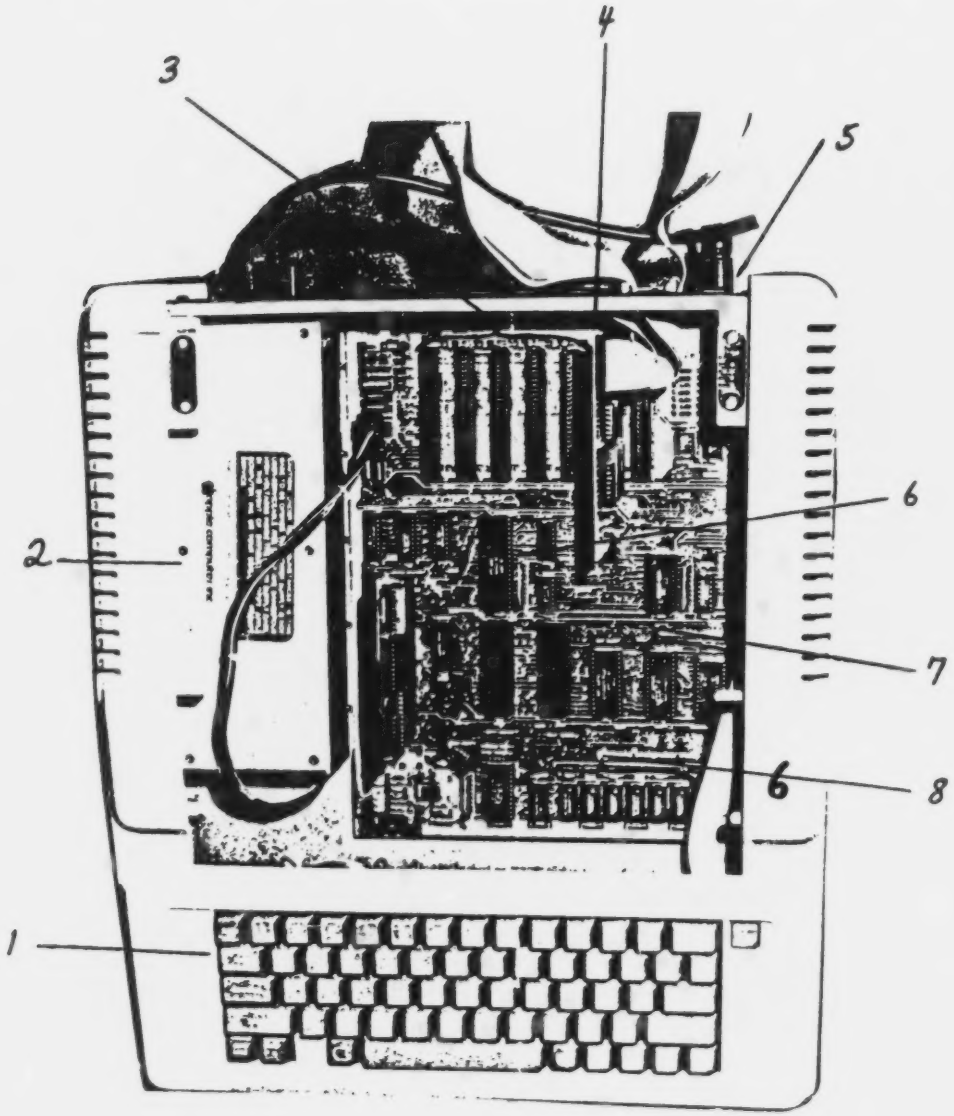
1. character "B"
2. digit _____
3. input device _____
4. storage device _____
5. peripheral _____
6. language _____

VII. A verb usually indicates action, something you do. A noun is a person, place or thing. Identify the words below as verbs (V) or nouns (N). Example: N computer

1. _____ scroll
2. _____ cursor
3. _____ user
4. _____ bug
5. _____ access
6. _____ language
7. _____ minicomputer
8. _____ reboot
9. _____ terminal
10. _____ sign on

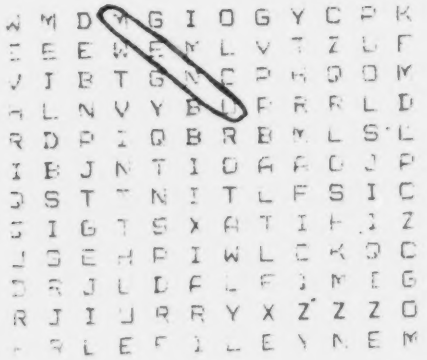
VIII. Study the illustration on the following page. Write the name of the part each number points to in the space below. If you need help, see pg. 51.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____



INSIDE A COMPUTER

IX. Computer Word Search: Circle the words listed below. They may be written forwards, backwards, up, down, or diagonally.



FIND THESE WORDS IN THE ABOVE PUZZLE :

BASIC	CHIP	FILE
FORMAT	INITIALIZE	
KILOBYTE	LIST	MENU ✔
PRINTER	SOFTWARE	

X. True/False: Write T for true and F for false on the line next to each of the sentences below.

1. _____ Software is hardware left out in the sun.
2. _____ A program is a list of step-by-step instructions that tells a computer what to do and how to do it.
3. _____ Computer programs and data are stored on floppy disks.
4. _____ A computer can "remember" more things than a human being.
5. _____ Electronics companies manufacture microprocessors for microcomputers.

BEST COPY AVAILABLE

XI. Choose and underline the correct term.

EXAMPLE:

The (keyboard, printer, monitor) is used to enter information into the computer.

1. The computer went (up, down, input) at 3:00 p.m. and we could not use it.
2. (Command, Run, Program) the computer to display your name five times.
3. You should (save, edit, read) your program before you turn off the computer or you will lose it.
4. The (program, graphics, documentation) that explained how to use the software was very good.
5. The printer produced a (softcopy, hard copy, sector) for us.

XII. Fill in the blanks using the following words:

flowchart	bit	compatible
output	stores	update

1. The computer _____ data by putting it into memory and keeping it for later use.
2. _____ is the result of data processed by the computer.
3. A _____ is a map of the steps used to design a program.
4. _____ your files by adding these new addresses.
5. Most software made for one computer is not _____ with another computer.
6. Microcomputers are usually eight _____ machines.

VESL VOCABULARY EXERCISES: PARTS AND FUNCTIONS OF A COMPUTER

XIII. Many words are formed from root words you already know. You can identify the root word even though it may appear within another word or in another form. EXAMPLE: execute, executed, executing

A) Each group of words in the following lines are formed from a root word. Underline the correct root word in each group of words.

EXAMPLE:

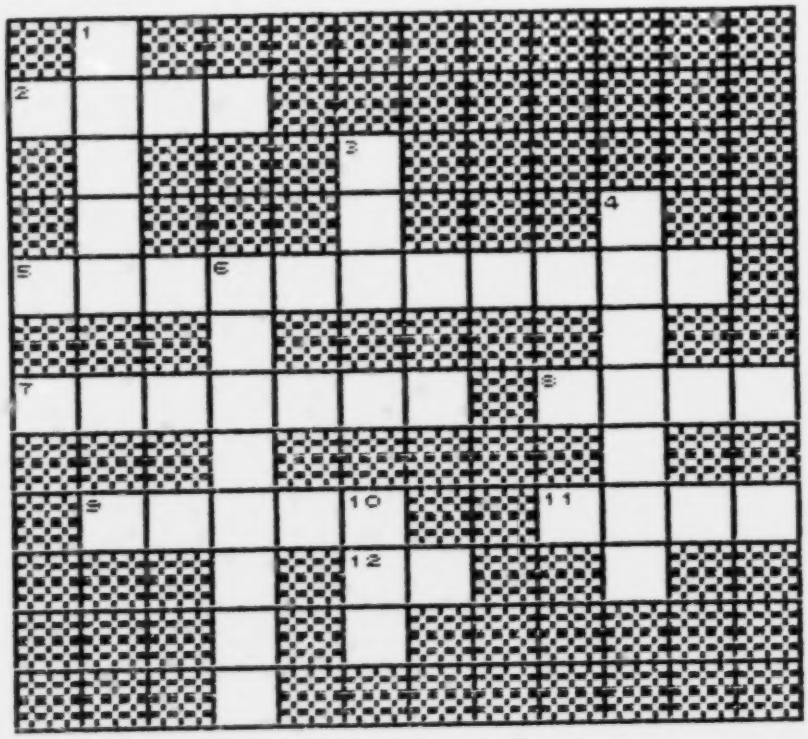
displaying, display, displayed

1. computerize, compute, computation
2. programmed, programmer, reprogram, program
3. storage, storing, store
4. documentation, document, documented
5. memorize, memorizing, memory, memorized

B) Now, find the missing root word and write it on the line:

6. retriever, retrieved, retrieving _____
7. accessable, accessing, accessed _____
8. calculation, calculatable, calculated _____
9. initialize, initially, initialized _____
10. transportable, transported, transporting _____

XIV. Crossword Puzzle: GETTING STARTED



ACROSS CLUES

2. To start the computer system
5. A computer command
7. A device that can draw lines or dots on paper
8. Data is stored on this
9. A bug or mistake
11. To protect a disk or file from being changed
12. The computer is working

DOWN CLUES

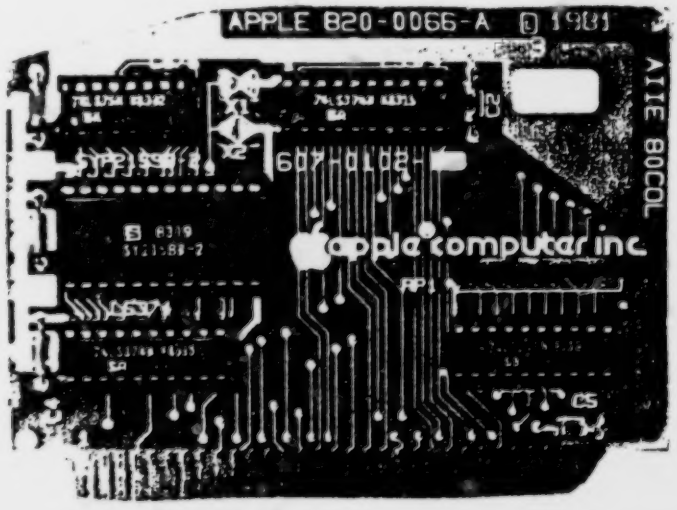
1. To gain entry to a computer system (two words)
3. Control processing unit (initials)
4. An output device
6. A program that teaches new concepts
10. To execute a program

XV. WHAT IS IT?

Can you guess what this is?

Write your answer on the line below.

HINT: It's not the central switching station of a railroad yard.



ANSWER: _____

ANSWER KEY: PARTS AND FUNCTIONS OF A COMPUTER

III. Page 6

1. disk drive
2. printer
3. monitor
4. keyboard
5. modem

IV. Page 8

4. data
8. memory
6. bug
1. input
2. peripheral
3. chip
10. user
7. boot
5. backup
9. scroll

V. Page 8

1. I
2. O
3. I/O
4. O
5. O
6. S

VI. Page 9

1. any letter or symbol
2. 0-9
3. keyboard or disk drive
4. disk or memory
5. printer or modem
6. any one of the following: Logo, Pascal, Basic, Fortran, Cobol

VII. Page 9

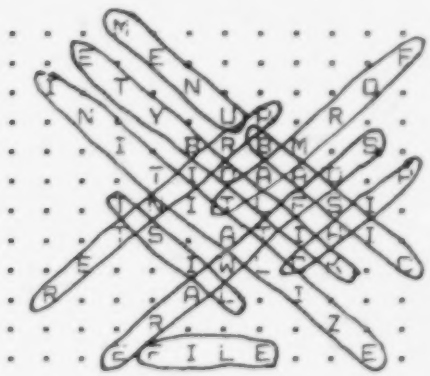
1.	V	6.	N
2.	N	7.	N
3.	N	8.	V
4.	N	9.	N
5.	V	10.	V

VIII. Page 9

1. keyboard
2. power source
3. slots for peripherals
4. disk drive card
5. input/output ports
6. microprocessor
7. ROM chips
8. RAM chips

IX. Page 11

COMPUTER WORD SEARCH



ANSWER KEY: PARTS AND FUNCTIONS OF A COMPUTER

X. Page 11

1. F
2. T
3. T
4. T
5. T

XI. Page 12

1. down
2. Program
3. save
4. documentation
5. hard copy

XII. Page 12

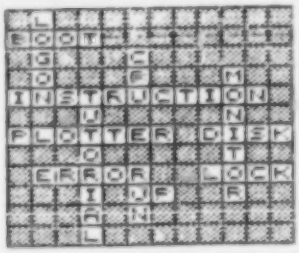
1. stores
2. output
3. flowchart
4. update
5. compatible
6. bit

XIII. Page 13

A)
1. compute
2. program
3. store
4. document
5. memory

B)
6. retrieve
7. access
8. calculate
9. initial
10. transport

XIV. Crossword Puzzle: GETTING STARTED



XV. Circuit Board or 80 Column Card

I. What do the following abbreviations mean?
If you need help, look at the vocabulary cards.
EXAMPLE:

bit BInary digiT

1. RAM _____
2. CAD _____
3. DOS _____
4. I/O _____
5. CAI _____
6. CRT _____
7. CPU _____
8. ROM _____

II. Match the abbreviation in column I with its definition in column II. Put the letter of the definition from column II in the blank beside the word in column I.

1.	__C__ DOS	A.	Allows you to use the computer to make designs
2.	_____ I/O	B.	The type of memory that is lost when the computer is turned off
3.	_____ CPU	C.	The language your computer uses to control a disk drive
4.	_____ BIT	D.	The disk drive is an example of this
5.	_____ RAM	E.	The "brains" of the computer
6.	_____ CAD	F.	The type of memory that remains after the computer is turned off
7.	_____ ROM	G.	The smallest unit of information a computer uses
8.	_____ CRT	H.	Programmed instruction under the direction of the computer
9.	_____ CAI	I.	A monitor

ANSWER KEY: COMPUTER ABBREVIATIONS

I. Page 20

1. random access memory
2. computer aided design
3. disk operating system
4. input/output (device)
5. computer aided instruction
6. cathode ray tube
7. central processing unit
8. read only memory

II. Page 21

1. C
2. D
3. E
4. G
5. B
6. A
7. F
8. I
9. H

I. Say the following words out loud to your teacher or a friend who speaks English well.

backup	storage device
track	write
memory	read
sector	write protect
disk	disk drive
diskette	floppy
store	transportable

II. DISK DON'TS

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(BEAGLE BROS PUBLISHES APPLE II SOFTWARE.)

Write four things you should NOT do to disks.

EXAMPLE: Don't play horseshoes with disks

1. Don't _____

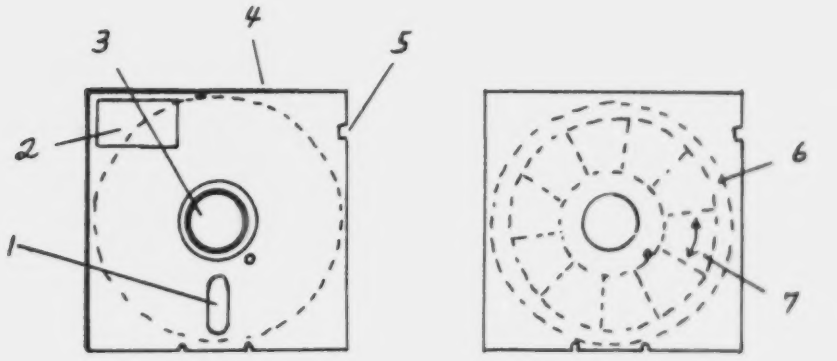
2. Don't _____

3. Don't _____

4. Don't _____

III. Parts of a Floppy Disk:

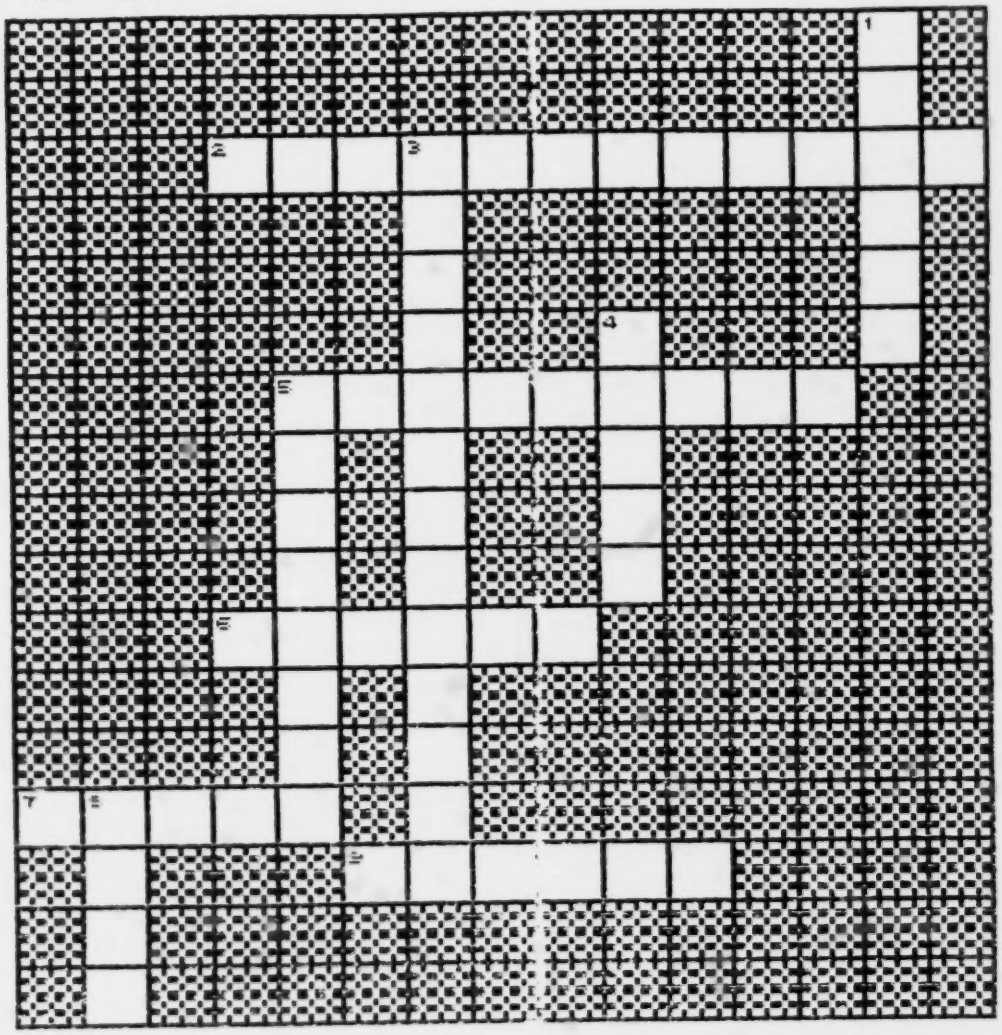
Look at the illustration below. Write the names of the components that the numbers point to. If you need help, look at the illustration on page 49.



"OUTSIDE" A FLOPPY DISK "INSIDE" A FLOPPY DISK

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____

IV. Crossword Puzzle: FLOPPY DISKS



ACROSS CLUES

2. To prevent information on a disk from being changed
5. A device that sends and records information onto a disk
6. Part of a track
7. To record information
9. Storage

DOWN CLUES

1. A copy of a disk
3. Compatible
4. Circular bands within a disk
5. Another word for disk
8. To send information to the computer's memory

II. Page 24

Any of the following:

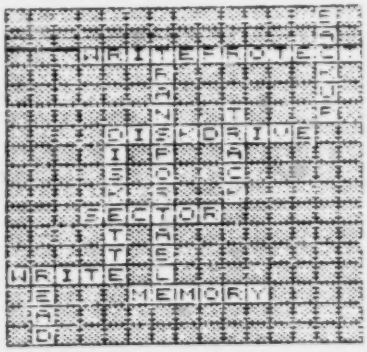
- don't step on disks
- don't set disks on fire
- don't cut disks
- don't feed disks to alligators (or drop in water)
- don't toast disks
- don't fold disks (or use them as airplanes)
- don't use disks as a paper or towel holder
- don't use disks as kites

III. Page 25

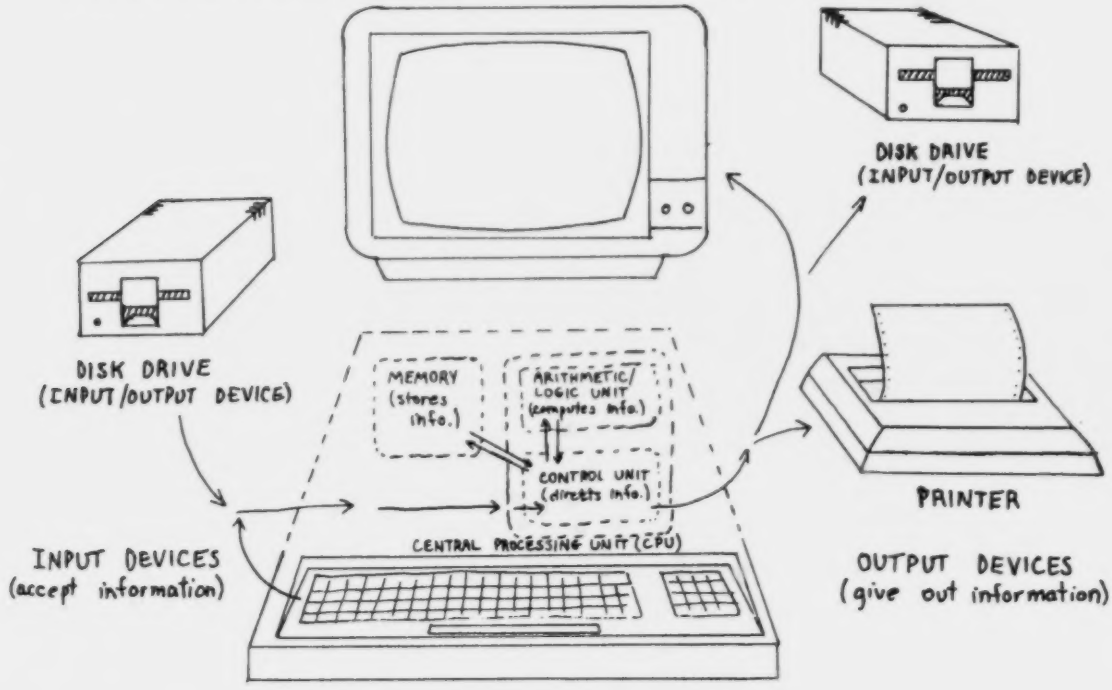
1. head access opening
2. label
3. drive spindle hole
4. protective cover
5. write protect notch
6. track
7. sector

IV. Page 26

CROSSWORD PUZZLE: FLOPPY DISKS



I. Look at the illustration below and answer the questions.



HOW A COMPUTER WORKS

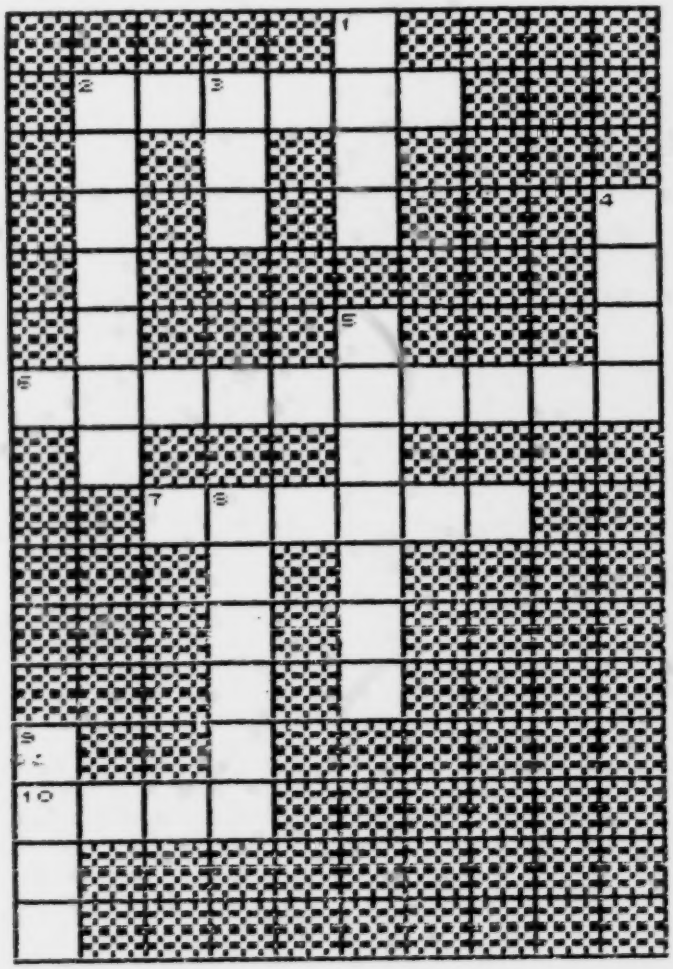
1. Give two examples of input devices: _____ and _____

2. The two parts of the central processing unit (CPU) are: _____ and _____

3. Name three output devices: _____, _____ and _____

4. The purpose of the memory section of the computer is to: _____

II. Crossword Puzzle: USING THE COMPUTER



ACROSS CLUES

2. A symbol showing where the next character will appear
6. To prepare a blank disk to receive information
7. To change or add a part to a computer system
10. To change or modify

DOWN CLUES

1. To put a disk into a disk drive and boot up
2. An instruction to a computer
3. To carry out a program or instruction by a computer
4. To store data for later use
5. A list of files or programs
8. A symbol that indicates when a computer is ready to accept input
9. A list of choices

III. We often make new words by adding prefixes (letters added to the beginning of a word). Prefixes change the meaning of a word.
EXAMPLE: connect - disconnect -- dis is a prefix

Can you find the original word in these words made with prefixes? Underline the original word.

1. miscalculate
2. debug
3. restore
4. reprogram
5. reboot
6. unload
7. unlock

IV. Can you give an everyday meaning for these computer terms?

1. bug _____
2. digit _____
3. flowchart _____
4. debug _____
5. hardware _____
6. data _____

V. A) Place the letters of the answer to each of the following questions in the blanks provided. Number 2 has been done for you as an example.

1. What do you call the movement of text up and down the screen? ○_ _ _ _
2. What is the name of a program that uses numbers and formulas for calculation and projection? E L E C T R O N I C S P R E A D S H E E T
3. What is the collection of records that are stored together on a disk? ○_ _ _
4. What is the term for the collection of information processed by a computer? _ _○_
5. What is the name of a program for typing and changing text? ○_ _ _ _ _ _ _ _ _
6. What is the word for the automatic continuation of text from one line to another? _ _ _ ○_ _ _ _ _
7. How is information presented in the form of drawings, diagrams, or charts? _○_ _ _ _ _ _
8. What is the term for the transmission of information across long distances using telephone lines? _ _ _○_ _ _ _ _ _ _ _ _ _ _ _ _

V. B) If you have answered all the questions correctly, the circled letters will spell out the word for the programs or sequences of instructions that tell a computer what to do.

$$\underline{\quad}\ \underline{\overset{0}{2}}\ \underline{\quad}\ \underline{\quad}\ \underline{\quad}\ \underline{\quad}\ \underline{\quad}\ \underline{\quad}\ \underline{\quad}\ \underline{\quad}$$
$$1\ \ 2\ \ 3\ \ 4\ \ 5\ \ 6\ \ 7\ \ 8\ \ 9\ \ 10$$

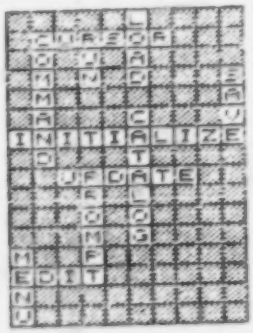
ANSWER KEY: GETTING DOWN TO BUSINESS AND PLEASURE

I. Page 28

1. disk drive, keyboard
2. arithmetic/logic unit, control unit
3. disk drive, printer, monitor
4. store information

II. Page 29

CROSSWORD PUZZLE: USING THE COMPUTER



III. Page 30

1. miscalculate
2. debug
3. restore
4. reprogram
5. reboot
6. unload
7. unlock

IV. Page 30

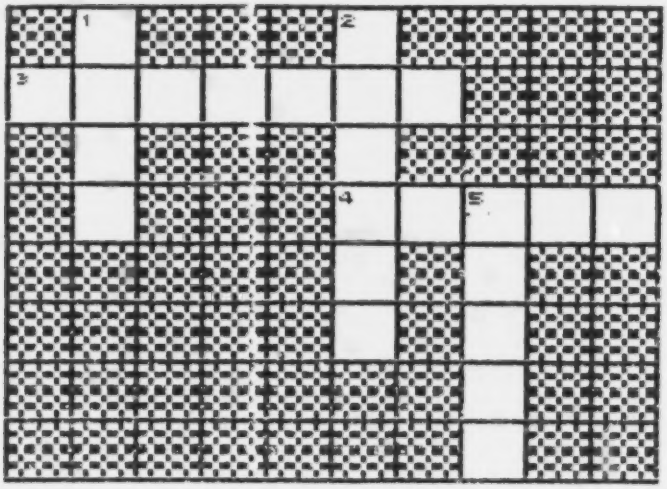
1. error, mistake
2. number
3. map, plan, chart
4. correct
5. equipment
6. information

V. Page 31

A) 1. scroll
2. electronic spreadsheet
3. file
4. data
5. word processor
6. wraparound
7. graphics
8. telecommunications

B) SOFTWARE

I. Crossword Puzzle: COMPUTER LANGUAGES



ACROSS CLUES

3. Used in scientific and mathematical work
4. Used for business

DOWN CLUES

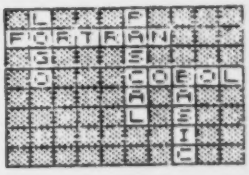
1. Designed for children and makes strong use of graphics
2. Used in business and science
5. Uses English words as commands

II. Some of the words below are associated with computer hardware and some are associated with computer software. Put the letter H before those which are associated with hardware; put the letter S before those associated with software.

1. _____ terminal
2. _____ CRT
3. _____ Basic
4. _____ character
5. _____ debug
6. _____ flowchart
7. _____ wraparound
8. _____ dot matrix printer
9. _____ loop
10. _____ modem

ANSWER KEY: PROGRAMMING LANGUAGES

I. CROSSWORD PUZZLE: COMPUTER LANGUAGES



II.

1.	H	6.	S
2.	H	7.	S
3.	S	8.	H
4.	S	9.	S
5.	S	10.	H

A flowchart is a drawing or map that shows the steps in the order needed to solve a problem or create a program on the computer. Certain symbols are used when making a flow chart.

I. Match the symbol with its meaning. Put the letter of the meaning in column II beside the symbol in column I. If you need help, look at your vocabulary cards.

COLUMN I		COLUMN II
1.	___	A. Decision
2.	___	B. Stop
3.	___	C. Input/Output
4.	___	D. Directions or Instructions

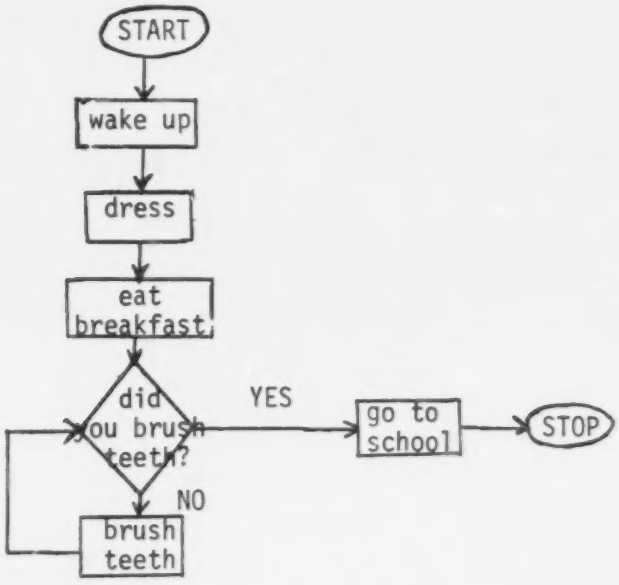
II. Fill in the blanks with the words below:

loop	programmer	rectangle
symbols	flowchart	solve
oval	decision	

1. A drawing or map used to write a program is a _____.
2. The geometric shapes in a flowchart are called _____.
3. The person who makes the flowchart is a _____.
4. A flowchart is used to _____ a problem.
5. The geometric shape used to start a flowchart is _____.
6. The action or instructional symbol is a _____.

III. An example of a flow chart could be:

1. wake up
2. dress
3. eat breakfast
4. did you brush teeth?
5. brush teeth
6. go to school



1. What words are in the oval symbols?

_____

2. What question is asked in the diamond?

_____

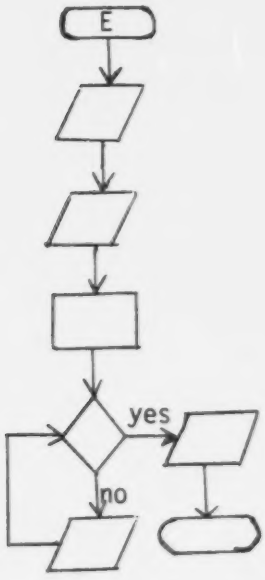
3. If the answer is NO, what is the next step?

_____

4. What do you think this flowchart is about?

_____

IV. Complete the flowchart by placing the steps on the right in the correct order in the flowchart. The first one has been done for you.



A. STOP
B. Start Machine
C. Has Machine Stopped?
D. Take Clothes from Machine
E. START
F. Collect Dirty Clothes
G. Let Machine Continue
H. Put Detergent in Machine

I. Page 37
   1. B
   2. D
   3. A
   4. C

II. Page 37
   1. flowchart
   2. symbols
   3. programmer
   4. solve
   5. oval
   6. rectangle

III. Page 38
   1. start and stop
   2. did you brush your teeth?
   3. brush teeth
   4. getting ready for school

IV. Page 39
   1. E
   2. F
   3. H
   4. B
   5. C
   6. if yes, D then A
   7. if no, G then C then D then A

I. Using the employability skills charts on the following pages, match the Job Skill in column I with the Job Title in column II. Put the letter of the Job Title in column II in the blank beside the number in column I.

Column I JOB SKILL	Column II JOB TITLE
_____1. Designs input & output forms	A. Data Entry Operator
_____2. Writes programs	B. Computer Operator
_____3. Transmits & receives data	C. Computer Programmer
_____4. Loads, runs & monitors programs	
_____5. Enters data from source documents	
_____6. Copies computer files for backup	
_____7. Files disks or diskettes	
_____8. Operates on-line terminals	
_____9. Adds and modifies data in data-entry records	
_____10. Develops flowcharts and programming diagrams	

DATA ENTRY OPERATOR

Related Basic Skills

COMMUNICATIVE ARTS

- Follows written and verbal instructions.
- Asks appropriate questions to find essential information.

COMPUTER SCIENCE

- Uses vocabulary of computer industry.
- Recognizes use of telephone in relation to computer systems.
- Keeps up to date with new developments in the field.
- Describes data-entry form layout.
- Describes tape, disk, and card record format.

Job Skills

- Operates on-line and remote-job-entry terminals, including key-to-disk and key-to-tape equipment.
- Enters data from source documents, according to given format.
- Verifies data and corrects errors.
- Adds and modifies data in data-entry records.
- Identifies, stores, and inventories data-entry supplies.
- Provides help to users of the service.
- Files reusable tapes, disks, or diskettes.
- Maintains production logs for information management.

Responsibility Skills

- Maintains confidentiality of data.
- Ensures that data entered is complete.
- Identifies and flags possible problems in input documents.
- Checks errors with supervisor or consultant.
- Assists with on-the-job training of other operators.
- Manages stress and frustration in dealing with people and systems.
- Learns and applies new technologies and procedures.
- Works well as a team member.

COMPUTER OPERATOR

Related Basic Skills

SCIENCE

- Describes principles of telecommunications and data-processing systems.

COMMUNICATIVE ARTS

- Reads computer operating instructions and manuals.
- Reads systems flowcharts and diagrams.
- Asks appropriate questions to find essential information.

COMPUTER SCIENCE

- Describes concepts and trends in data processing.
- Describes job-control language (JCL) and procedures.
- Identifies tape, disk, and card recording characteristics.
- Explains nature and function of computer terminals and related (peripheral) equipment.
- Describes timeshare procedures for system operations.
- Demonstrates proficiency in keyboard operation.

Job Skills

- Performs power-on, power-off and restart procedures.
- Mounts and dismounts disk packs and tapes.
- Transmits and receives data to and from remote sites.
- Copies computer files for backup.
- Loads, runs, and monitors programs, computer files, and data bases.
- Identifies error message and performs correction procedure.
- Maintains records and logs of computer usage.
- Files processed forms, punched cards, and job instruction sheets.
- Performs routine maintenance: for example, cleans equipment, clears paper jams, and changes ribbons.
- Maintains tape and disk pack library.
- Detects and locates causes of equipment problems.
- Maintains appropriate environmental conditions in computer room.

Responsibility Skills

- Starts procedures for equipment repair.
- Checks that all jobs are complete.
- Respects and protects client confidentiality and data security.
- Protects tapes, cards, and disk packs against loss or damage.
- Safeguards access to computer room.
- Manages time effectively.
- Manages stress and frustration in dealing with people and systems.
- Learns and applies new technologies and procedures.

COMPUTER PROGRAMMER

Related Basic Skills

MATHEMATICS

- Demonstrates mathematical skills required to write calculation routines.
- Explains and converts numbering systems: for example, decimal to binary.
- Demonstrates accounting skills needed to analyze and write programs.

COMMUNICATIVE ARTS

- Demonstrates written and verbal communication skills.

COMPUTER SCIENCE

- Describes concepts and trends in data processing.
- Explains impact of current developments on data processing: for example, telecommunications, robotics, and microcomputers.
- Identifies and selects the correct coding and computer reporting forms.
- Defines job-control languages, edit routines and program languages.
- Applies logic to reduce complex projects into manageable tasks.

Job Skills

- Analyzes programming problems.
- Designs input and output formats.
- Programs for efficient use of computer time.
- Selects files and subroutines for use in programming.
- Develops flowcharts and programming diagrams.
- Uses appropriate computer programming languages: for example, COBOL and BASIC.
- Writes programs, using accepted coding standards.
- Tests (debugs) program, corrects errors, and makes revisions in program.
- Runs test data to verify program.
- Prepares program documentation.
- Prepares operator and user instructions.
- Performs program maintenance and modifications.

Responsibility Skills

- Respects and protects client confidentiality and data security.
- Protects tapes and programs against loss and damage.
- Communicates effectively with users to clarify data processing needs and specify solutions.
- Consults with users to verify initial results.
- Manages time effectively.
- Works well as a team member, and adapts to changes.
- Manages stress and frustration in dealing with people and systems.
- Learns and applies new techniques and procedures.

II. List three job skills (other than those mentioned in Exercise I on page 41) that are done by a data entry operator, a computer operator and a computer programmer.

DATA ENTRY OPERATOR	COMPUTER OPERATOR	COMPUTER PROGRAMMER

III. Study the Related Basic Skills section for Data Processing Employees on the charts on the next three pages.

- Mark with a "D" the skills applying to a data entry operator.
- Put an "O" next to the skills applying to a computer operator.
- Put a "P" next to the skills applying to a computer programmer.

_____1. Needs the most extensive background in mathematics

_____2. The entry-level position in data processing

_____3. Uses vocabulary of computer industry

_____4. Reads systems flowcharts and diagrams

_____5. Demonstrates proficiency in keyboard operation

_____6. Demonstrates written and verbal communication skills

_____7. Reads computer operating instructions and manuals

_____8. Recognizes use of telephone in relation to computer systems

IV. Write a short paragraph on each of these three common employment interview questions. Show your answers to your teacher.

1. Tell me (the interviewer) about yourself.
   CLUE: Briefly explain: Where you are from and how long you have been in the U.S. if you were not born here; your data processing or computer education and why you would enjoy working with computers.

2. What experience do you have?
   CLUE: Discuss your education in computer science or data processing in addition to any job involving computers (part-time or full time) you may have held.

3. What area of computer science or data processing are you most interested in?
   CLUE: State your job goal and explain what you are doing to reach that goal.

ANSWER KEY: EMPLOYABILITY SKILLS

I. Page 41

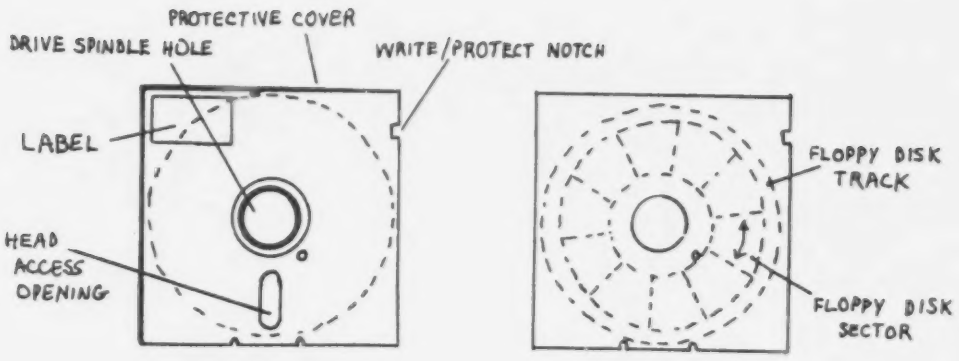
1. C
2. C
3. B
4. B
5. A
6. B
7. A
8. A
9. A
10. C

II. Page 45

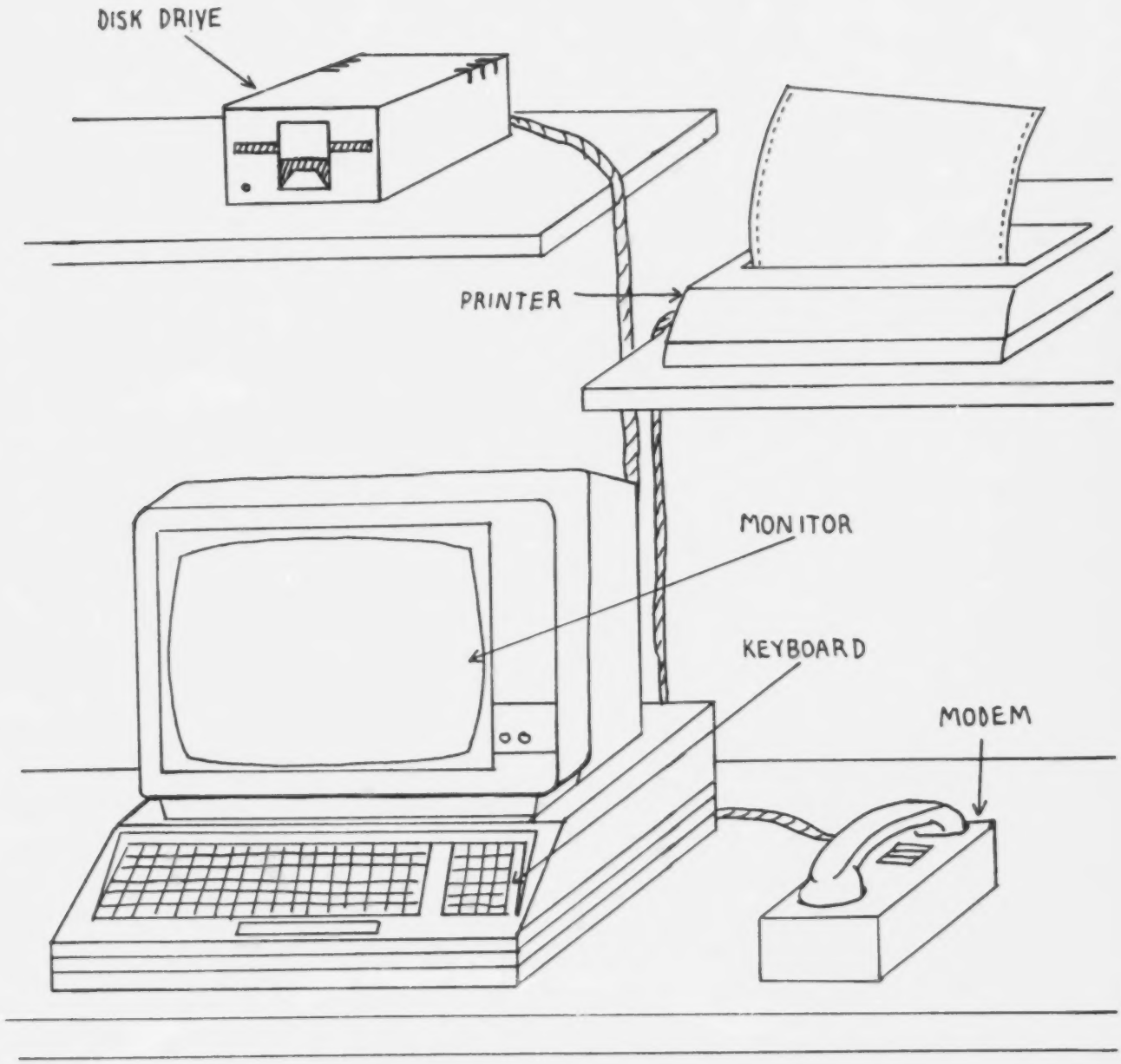
Check Employability Skills Charts

III. Page 45

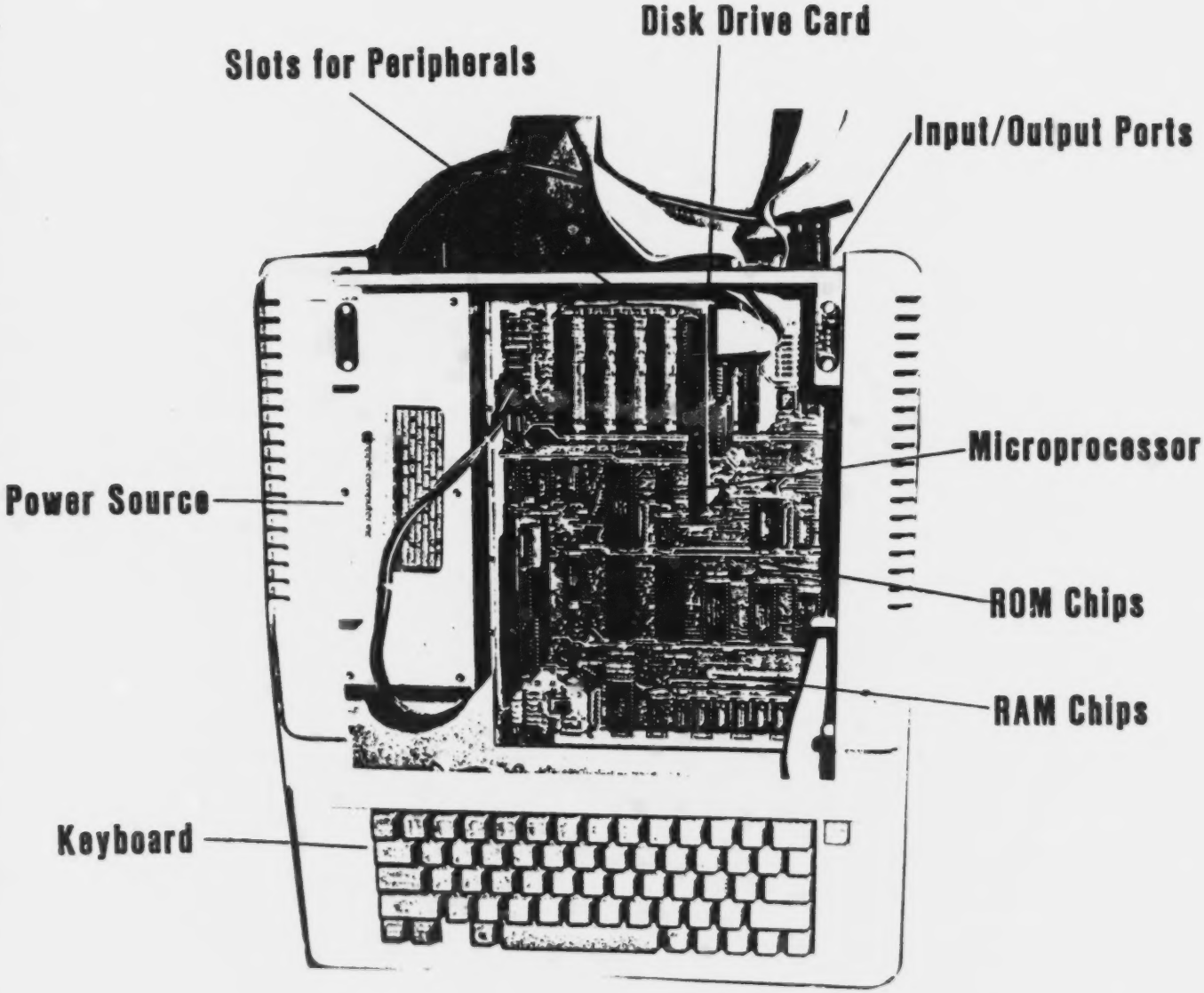
1. P
2. D
3. D
4. O
5. O
6. P
7. O
8. D



Parts of a Floppy Disk



THE HARDWARE COMPONENTS OF A COMPUTER



INSIDE A COMPUTER

I. PARTS AND FUNCTIONS OF A COMPUTER:

1. Discuss the use of each hardware component in terms of input (keyboard, disk drive), processing (central processing unit), and output (monitor, printer).

2. Make flashcards of the steps involved in inputing data into the computer, processing, and output. Put the cards in sequence.

3. Pass around samples of chips and circuit boards and orally explain the various parts to the class. (These can be obtained from local hardware and computer service centers).

4. Name 2 ways the computer might help you on the job or in training.

5. Look for pictures of different computer systems in newspapers and magazines. Compare them for price, equipment, memory and software.

6. Design your own checklist of features to look for when buying a computer system.

II. COMPUTER ABBREVIATIONS:

1. Make flashcards of each abbreviation. Name the part or function of each abbreviation.

2. Abbreviation Bingo: Have someone call out a computer term. Match the term with its abbreviation on a game card. For example: central processing unit - CPU.

III. FLOPPY DISKS:

1. Remove the protective covering from a damaged disk and pass the disk around to the other students. Discuss the parts of the disk and their functions.

2. Pass around a floppy disk and a cassette tape. Explain orally (or in writing) a few ways they are the same and ways they are different.

3. Study the illustration of DISK DON'TS on page 24. Make additional illustrations of things not to do with disks.

IV. GETTING DOWN TO BUSINESS AND PLEASURE:

1. Look in newspapers and magazines for an example of each of the following:
   a) two word processing programs
   b) two electronic spreadsheet programs
   c) two data base managment programs

2. Compare each of the programs above for cost, type of computer for which the program was designed, features (e.g. underlining) and quality of documentation.

3. Design your own checklist of features you want when buying software.

4. Create a data base.
   a) Ask each student for the following information:
      . name
      . address
      . telephone number
      . two hobbies
      . two magazines that she/he reads
      . a favorite food
   b) With the help of a teacher, enter the information into a data base program.
   c) Call up the name of each student that fits a certain description. For example: All those who enjoy pizza as a favorite food; or, those who read Newsweek magazine.

5. Write and print out a letter to a friend or classmate using a word processing program.

6. Figure out a month's budget using an electronic spreadsheet program.

7. Write a weekly or monthly newsletter with a word processing program. Mail the newsletter to similar training institutions using a data base management program for the addresses.

V. PROGRAMMING LANGUAGES:

1. Write (or orally present) a short report on the use and application of a programming language

2. Bring in a listing or a program done in one programming language and compare it to another done in a different programming language.

3. Invite a computer expert to give a presentation to the class.

VI. FLOWCHARTS:

1. Construct a flowchart of your "typical" day.

2. Draw a flowchart of how you solve a problem.

VII. EMPLOYABILITY SKILLS:

1. Make an oral presentation to your class explaining a data processing career or a job involving computers that interests you. Explain how you are individually preparing for that position.

2. Decide the entry-level data processing position which most interests you. List the job skills you currently have for that position and those you still need to develop.

3. Make a list of the qualities you would require in a data processing or computer worker if you were an employer. Consider such qualities as "reports for work on time" and "completes job assignments". Decide if you have these qualities and what you can do to develop the ones you are lacking.

4. Role play an employment interview with one of your classmates. Each of you should take turns being the employer and the potential employee. Remember to practice techniques for using the telephone to obtain the interview.

APPENDIX A

COMPUTER LITERACY VOCABULARY LIST

A
ACCESS

B
BASIC
BACKUP
BINARY SYSTEM
BIT
BOOT (OR COLD START)
BUG
BYTE

C
CAD
CAI
CALCULATE
CATALOG
CRT (CATHODE RAY TUBE)
CENTRAL PROCESSING UNIT (CPU)
CHARACTER
CHIP
CIRCUIT BOARD
COBOL
COMMAND
COMPATIBLE
COMPUTER
COMPUTER SYSTEM
CURSOR

D
DAISY WHEEL PRINTER
DATA
DATA BANK
DATA PROCESSING
DEVICE
DEBUG
DIGIT
DIRECTORY
DISK
DISK DRIVE
DISKETTE
DISPLAY
DISK OPERATING SYSTEM (DOS)
DOT MATRIX PRINTER
DOCUMENTATION
DOWN

E
EDIT
ELECTRONIC SPREADSHEET
ERROR MESSAGE
EXECUTE

F
FILE
FILE NAME
FLOPPY DISK

FLOWCHART
FLOWCHART SYMBOLS
FORMAT
FORTRAN

G
GRAPHICS

H
HARD COPY
HARDWARE
HOOKED UP

I
IMMEDIATE MODE
INITIALIZE
INPUT
INPUT DEVICE
INPUT/OUTPUT DEVICE (I/O)
INSTRUCTION
INTERFACE

K
KEYBOARD
KILOBYTE

L
LANGUAGE
LOAD
LOCK
LOOP
LIST
LOG OFF
LOG ON
LOGO

M
MACHINE LANGUAGE
MAINFRAME
MEMORY
MENU
MICROCOMPUTER
MICROPROCESSOR
MINICOMPUTER
MODEM
MONITOR

O
OFF-LINE
ON-LINE
OPERATING SYSTEM
OUTPUT
OUTPUT DEVICE

P
PASCAL
PERIPHERALS
PRINTER
PLOTTER
PROGRAM
PROGRAMMABLE MODE
PROGRAMMER
PROMPT

R

RAM (RANDOM ACCESS MEMORY)
READ
REBOOT (OR WARM START)
RETRIEVE
ROM (READ ONLY MEMORY)
ROUTINE
RUN

S

SAVE
SECTOR
SCROLL
SIGN OFF
SIGN ON
SOFTCOPY
SOFTWARE
STORE
STORAGE DEVICE

T

TELECOMMUNICATIONS
TERMINAL
TEXT
TIME-SHARING
TRACK
TRANSPORTABLE
TUTORIAL

U

UP
UPDATE (1)
UPDATE (2)
USER
USER FRIENDLY

W

WORD PROCESSOR
WRAPAROUND
WRITE
WRITE PROTECT

APPENDIX B

VOCABULARY EXERCISES: A RESOURCE LIST

I. LISTENING AND SPEAKING

1. Listen to the terms and definitions on tape or pronounced by the teacher.
2. Pronounce terms (modeled on tape or by teacher).
3. Listen to a tape of two or three sentences and discriminate between sounds (e.g. Tape the exercise; Type the exercise).
4. Mini-dialogs: Student matches an appropriate response to a situation described in one sentence. The response may be advice, so student gets practice with command forms.
5. Give orally as many forms of a word as appropriate (add, addition, additional).
6. Give an original definition of a term.
7. Answer questions that require using new vocabulary in the answers.
8. Answer true or false to statements read orally.
9. Picture stimulus: identify illustrations of equipment, materials, workers, actions, etc.
10. Use audio flashcards: hear - see - say the terms.
11. Translate terms orally to native language.
12. Name all words in a particular category (optional: doing it within a time period).
13. True-false with picture stimulus: teacher makes a statement about the picture, student answers true or false.
14. Complete a dialog with given vocabulary terms.
15. Use terms in original sentences (spoken to teacher, classmates, or friend).

II. READING AND WRITING

1. Label pictures of objects or of work situations.
2. Replace a synonym with a new vocabulary term.
3. Give multiple choice exercises with definitions for a vocabulary term in English or students' native language.
4. Scramble sentences containing vocabulary terms. The student puts the sentences in order. Parts may be labelled a, b, c, d, etc. for easy answering.
5. Answer in writing questions that require vocabulary terms in the answers.
6. Alphabetize selected terms.
7. Do fill-in-the-blank exercises. Variations: a) give the first letter of the word needed; b) fill in all verbs, or nouns, or vowels; c) give Cloze exercises.
8. True/false exercises: answer with T/F, or rewrite with a corrected statement.
9. Give a vocabulary term followed by its definition in scrambled word order (e.g. typewriter; that/machine/a/types). Put the definition in order.
10. Match written definitions to terms.
11. Complete a story with given vocabulary terms.
12. Write different forms of vocabulary terms, using verbs, nouns, adjectives, or adverbs (e.g. align, alignment)
13. Write an original definition for a term.
14. Write words or sentences using vocabulary terms from dictation or tape.
15. Use terms in original sentences (written).

II. READING AND WRITING (continued)

16 Make sketches or diagrams of terms where appropriate.

17. Label illustrations or objects pertaining to the occupation studied (tools, equipment, etc.)

18. Bingo game (See Troth, I Know - A Vocabulary Game for the Food Trades): students cover terms on cards when cued by an oral definition.

19. Identify or select information requested from filled-out work documents.

20. Put steps for a vocational process in order, by writing or using flashcards.

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Activities for VESL Vocabulary Cards. Gail F. Shay. Arizona Department of Education. May 1983.

A handbook with activities in the areas of typing, accounting, human relations in business and business machines. Includes vocabulary exercise resource list.

Apple IIe Manual. 20525 Mariani Avenue, Cupertino, CA 95014. 1982.

Documentation accompanying the Apple IIe. Glossary was particularly helpful to this project.

Arizona Employability Skills: Data Processing. (available in English and Spanish). Arizona State Department of Education, Phoenix, AZ. 1983-84

Spanish and English listing of related basic skills, job skills, and responsibility skills for three separate computer-related jobs.

CALICO Journal. "A CALI Glossary for Beginners". Randall L. Jones. Sept. 1983.

A new, excellent journal devoted to all phases of computer assisted language learning

Competency Based Curriculum: Scope and Sequence. Computer Technology, District of Columbia Public Schools, 1982. Available through Illinois Vocational Curriculum Center, Sangamon State University, Springfield, IL 62708.

A brief listing of computer technology course performance objectives (no conditions or criteria for evaluation given). 18 pages

Computer Literacy. Lyle R. Langlois. Glendale Community College, 6000 W. Olive Avenue, Glendale, AZ 85302.

A good introduction to computers, from an historical overview to some exercises in Basic. Includes a chapter on computer-related jobs and an excellent glossary.

Data Processing: Glossary of Key Words. Vocational Reading Power, E.S.E.A., Title III. The Exchange, University of Minnesota, Minneapolis, MN. c. 1979.

Vocational vocabulary; each term with a single and complex definition, division into syllables, and example sentences. One of a very good series.

Electronic Learning. Scholastic Inc., P.O. Box 645, Lyndhurst, NJ 07071-9986. 1983-84.

Eight-part staff development series designed to supplement a school or district's in-service workshops on eight different topics related to computers in education.

Fundamentals: An Introduction to Computers. Educational Computer Systems, Maricopa Community Colleges, 3910 E. Washington, Phoenix, AZ 85034. 1983.

An excellent in-house publication designed to inservice instructors and support staff.

A Guide to Task Analysis for Competency Based Education: Business and Office Education. Georgia State Department of Educaction. July 1980.

A seven page listing of tasks for data processing as they relate to different DOT code occupations

New Perspectives - VESL: An Annotated Bibliography. Gustavo Valadez. Evergreen Valley College, 3095 Yerba Buena Road, San Jose, CA 95135-1598. January 1983.

An annotated bibliography of VESL and ESP materials cross-referenced by vocation, author, language and language level (basic to advanced)

Notes on the Development Process for Microcomputer Bilingual Materials. Center for Educational Experimentation, Development and Evaluation, University of Iowa. 1983.

Presents an excellent overview fo developing materials for CAI. It details the Compman I system and includes a good glossary of computer terms.

VESL for Data Processing. Student's Manual and Teacher's Manual. Truman College, Chicago, IL. 1981.

Text with three units: technical English, on-the-job communications, and job-finding skills. Exercises for vocabulary, grammar, forms, etc.

Word Processing Curriculum (8 Modules). Developed by Northern Arizona University and the University of Arizona. (Revision of a 1980 curriculum)

A large and complete set of curriculum materials for an intensive 8-week training course, especially designed to serve minority language communities. Topics of manuals include business English, reference manuals, formatting, proofreading, filing, telecommunications, information processing, and operations.

COMPUTER SOFTWARE

Crossword Magic. Larry Sherman. L & S Computerware, 1008 Steward Drive, Sunnyvale, CA 94086.

Computer program that makes crossword puzzles very rapidly

Wordmaze Maker. Freeloader 500. American Software Publishing Company, Washington, DC 20036.

Part of a large series of public domain software, some good and some needing work. "Wordmaze Maker" generates word search puzzles, but has some problems in printing.

FLASH CARDS

To obtain the maximum benefit from the enclosed flash cards, the following is recommended:

1. Laminate the flash card sheets.
2. Cut each laminated sheet into five cards.
3. Arrange the cards alphabetically, inserting the picture cards at the appropriate places.
4. Hole-punch the upper left corner of each card.
5. Connect the cards together with a hinged ring.

ACCESS

AC-CESS

TO OBTAIN ENTRY TO A COMPUTER SYSTEM

THE STUDENTS COULD ACCESS THE SCHOOL COMPUTER.

BASIC

BA-SIC

ACRONYM FOR BEGINNER'S ALL-PURPOSE SYMBOLIC INSTRUCTION CODE; A PROGRAMMING LANGUAGE FREQUENTLY USED WITH MICRO-COMPUTERS THAT USES ENGLISH WORDS AS COMMANDS (SEE LANGUAGE)

BASIC IS AN EASY-TO-LEARN AND USE PROGRAMMING LANGUAGE.

BACKUP

BACK-UP

A COPY OF ONE OR MORE PROGRAMS THAT IS KEPT IN CASE THE ORIGINAL IS DAMAGED

I HAVE A BACKUP OF MY WORD PROCESSING PROGRAM.

BINARY SYSTEM

BI-NA-RY SYS-TEM

A NUMERAL SYSTEM USED BY DIGITAL COMPUTERS WHOSE BASIC SYMBOLS ARE Ø AND 1

IN A BINARY SYSTEM, 1 AND Ø CORRESPOND TO ''ON'' AND ''OFF'' SWITCHES IN THE COMPUTER.

BIT

BIT

A BINARY DIGIT; THE SMALLEST UNIT OF INFORMATION A COMPUTER USES

TWO BITS HAVE FOUR STATES -- ØØ, Ø1, 1Ø, AND 11.

MICROCOMPUTERS ARE USUALLY 8 OR 16 BIT MACHINES.

BOOT (OR COLD START)

BOOT

THE PROCESS OF STARTING UP THE COMPUTER WHEN THE POWER OR SWITCH IS FIRST TURNED ON (SEE REBOOT)

BOOTING UP TAKES ONLY A FEW SECONDS.

CAD

CAD

COMPUTER AIDED DESIGN

A CAD SYSTEM ALLOWS YOU TO USE A COMPUTER TO MAKE DESIGNS.

BUG

BUG

AN ERROR IN A PROGRAM THAT CAUSES THE PROGRAM NOT TO WORK

FINDING THE BUG IN A PROGRAM MAY TAKE HOURS.

CAI

CAI

COMPUTER ASSISTED INSTRUCTION

CAI IS PROGRAMMED INSTRUCTION UNDER THE CONTROL OF A COMPUTER.

BYTE

BYTE

A GROUP OF 8 BITS THAT REPRESENT INFORMATION SUCH AS A LETTER OF THE ALPHABET, NUMBER, OR GRAPHIC SYMBOL

ONE BYTE EQUALS ONE LETTER CHARACTER.

CALCULATE

CAL-CU-LATE

TO COMPUTE NUMBERS BY ADDING, SUBTRACTING, MULTIPLYING, OR DIVIDING THEM

WE CALCULATED OUR INCOME TAXES BY USING THE COMPUTER.

CATALOG

CAT-A-LOG

A LIST OF ALL THE FILES STORED ON A DISK OR TAPE; SOMETIMES CALLED A DIRECTORY

THE CATALOG IS LIKE A TABLE OF CONTENTS OF A BOOK.

CATHODE RAY TUBE (CRT)

CATH-ODE RAY TUBE

THE PICTURE TUBE IN A TELEVISION SET OR A VIDEO TERMINAL

CRT SCREENS ARE ALSO CALLED MONITORS.

CENTRAL PROCESSING UNIT (CPU)

CEN-TRAL PRO-CES-SING U-NIT

THE ''BRAINS'' OF THE COMPUTER WHICH CONTROLS AND CARRIES OUT INSTRUCTIONS

THE TWO PRIMARY PARTS OF THE CPU ARE THE CONTROL UNIT AND THE ARITHMETIC/LOGIC UNIT.

CHARACTER

CHAR-AC-TER

ANY LETTER (A-Z), NUMERAL (0-9), OR SYMBOL (*, $, @) USED IN WRITING OR PRINTING

THE SYMBOLS ON THE KEYS OF THE COMPUTER KEYBOARD ARE OFTEN CALLED CHARACTERS.

CHIP

CHIP

A SMALL PIECE OF SILICON WITH THOUSANDS OF ELECTRONIC CIRCUITS PRINTED ON ITS SURFACE

CHIPS HAVE REPLACED TUBES AND LARGE TRANSISTORS IN COMPUTERS.

CIRCUIT BOARD

CIR-CUIT BOARD

A FLAT, RECTANGULAR PIECE OF FIBERGLASS TO WHICH ELECTRONIC COMPONENTS ARE CONNECTED

THE PRINTER CARD THAT INTERFACES BETWEEN THE COMPUTER AND THE PRINTER IS A TYPE OF CIRCUIT BOARD.

COBOL

CO-BOL

ACRONYM FOR COMMON BUSINESS ORIENTED LANGUAGE (SEE LANGUAGE)

COBOL IS A PROGRAMMING LANGUAGE USED FOR BUSINESS.

COMMAND

COM-MAND

AN INSTRUCTION, USUALLY FROM THE KEYBOARD, TELLING THE COMPUTER TO PERFORM A FUNCTION

THE COMPUTER WILL NOT OPERATE UNTIL IT GETS A COMMAND FROM THE USER.

COMPATIBLE

COM-PA-TI-BLE

COMPUTER SYSTEMS OR SOFTWARE THAT CAN BE USED BY MORE THAN ONE TYPE OF COMPUTER; SAME AS TRANSPORTABLE

SOFTWARE FOR THE IBM/PC IS NOT COMPATIBLE (WON'T WORK) WITH THE APPLE COMPUTER WITHOUT THE ADDITION OF A SPECIAL DEVICE.

COMPUTER

COM-PU-TER

AN ELECTRONIC MACHINE WITH A LARGE MEMORY THAT HANDLES DATA AND SOLVES PROBLEMS AT VERY FAST SPEEDS (SEE MICRO, MINI, MAIN)

THE COMPUTER CAN SOLVE COMPLICATED MATH PROBLEMS IN SECONDS.

COMPUTER SYSTEM

COM-PU-TER SYS-TEM

A COMPUTER TOGETHER WITH THE INPUT AND OUTPUT DEVICES NEEDED FOR ITS OPERATION

WE BOUGHT A COMPUTER SYSTEM FROM A LOCAL STORE.

CURSOR

CUR-SOR

A SYMBOL THAT SHOWS WHERE THE NEXT CHARACTER WILL APPEAR ON A MONITOR SCREEN

THE CURSOR ON THE APPLE IIE IS A FLASHING SQUARE.

DAISY WHEEL PRINTER

DAI-SY WHEEL PRINT-ER

A MACHINE THAT PRODUCES CHARACTERS WITH A ROTATING CHARACTER WHEEL: SLOWER THAN A DOT MATRIX PRINTER (SEE PRINTER, DOT MATRIX PRINTER)
This sentence was printed with a daisy wheel printer.

DATA

DA-TA

A COLLECTION OF INFORMATION (NUMBERS, LETTERS, SYMBOLS) THAT CAN BE PROCESSED BY A COMPUTER

ALL THE DATA IN THE COMPUTER WERE LOST WHEN THE ELECTRICITY WENT OUT.

DATA BANK

DA-TA BANK

A COLLECTION OF COMPUTERIZED INFORMATION, USUALLY STORED ON TAPES OR DISKS

THE PROGRAMMER OBTAINED THE NECESSARY INFORMATION FROM A DATA BANK.

DATA PROCESSING

DA-TA PRO-CES-SING

THE ELECTRONIC PROCESSING OF INFORMATION ON A COMPUTER

THE DATA PROCESSING OF ALL THE CLIENTS' ADDRESSES AND PHONE NUMBERS TOOK TWO DAYS.

DEVICE

DE-VICE

A PART OF THE COMPUTER SYSTEM DESIGNED FOR A SPECIFIC PURPOSE

THE DISK DRIVE IS AN INPUT/OUTPUT DEVICE.

DEBUG

DE-BUG

TO LOCATE AND CORRECT MISTAKES IN A COMPUTER PROGRAM; SAME AS TROUBLESHOOT (SEE BUG)

YOU WILL HAVE TO DEBUG THE PROGRAM IN ORDER TO RUN IT.

DIGIT

DIG-IT

A NUMERAL WHICH REPRESENTS A SPECIFIC QUANTITY

THE NUMERALS Ø - 9 ARE DIGITS IN OUR NUMBER SYSTEM.

DIRECTORY

DI-REC-TO-RY

A LIST OF ALL FILES STORED ON A DISK; SOMETIMES CALLED A CATALOG

THE DIRECTORY HAD 23 FILES.

DISKETTE

DISK-ETTE

(SEE DISK)

DISK

DISK

A SQUARE PLASTIC SHEET COVERED WITH A MAGNETIC MATERIAL AND USED TO STORE INFORMATION IN THE FORM OF BITS; ALSO CALLED DISKETTE OR FLOPPY DISK

INFORMATION RECORDED ON DISKS IS SIMILAR TO THE WAY SOUNDS ARE RECORDED ON TAPE.

DISK DRIVE

DISK DRIVE

A DEVICE THAT SENDS (READS) AND RECORDS (WRITES) INFORMATION ONTO THE SURFACE OF A DISK

THE DISK DRIVE RAPIDLY ROTATES THE DISK IN ORDER TO READ AND WRITE INFORMATION.

DISPLAY

DIS-PLAY

INFORMATION SHOWN VISUALLY, USUALLY ON A MONITOR SCREEN

THE COMPUTER DISPLAYED AN ERROR MESSAGE.

DISK OPERATING SYSTEM (DOS)

DISK OP-ER-AT-ING SYS-TEM

THE LANGUAGE YOUR COMPUTER USES TO COMMUNICATE WITH AND CONTROL A DISK DRIVE

IBM'S DOS IS DIFFERENT FROM APPLE'S DOS.

DOT MATRIX PRINTER

DOT MA-TRIX PRINT-ER

A MACHINE THAT PRODUCES WRITTEN CHARACTERS BY PRINTING PATTERNS OF DOTS (SEE DAISY WHEEL, PRINTER)

DOCUMENTATION

DOC-U-MEN-TA-TION

THE INFORMATION AND INSTRUCTION MANUAL THAT ACCOMPANIES A DISK(S)

I COULD NOT UNDERSTAND THE DOCUMENTATION THAT CAME WITH OUR SOFTWARE.

DOWN

DOWN

WHEN THE COMPUTER IS NOT WORKING, BECAUSE OF MALFUNCTION OR MAINTENANCE CHECKS (SEE UP)

THE COMPUTER WAS DOWN FOR FIVE HOURS ON FRIDAY.

EDIT

ED-IT

TO CHANGE OR MODIFY TEXT

EXAMPLES OF EDITING COMMANDS ARE ''MOVE'', ''INSERT'', OR ''REPLACE''.

ELECTRONIC SPREADSHEET

E-LEC-TRON-IC SPREAD-SHEET

A PROGRAM THAT USES NUMBERS AND FORMULAS IN ROWS AND COLUMNS FOR EASY CALCULATION AND PROJECTION

''VISICALC'' IS A POPULAR ELECTRONIC SPREADSHEET.

ERROR MESSAGE

ER-ROR MES-SAGE

A MESSAGE DISPLAYED OR PRINTED THAT TELLS THE USER A PROBLEM EXISTS IN THE PROGRAM

THE ERROR MESSAGE I RECEIVED WAS ''SYNTAX ERROR''.

EXECUTE

EX-E-CUTE

TO PERFORM OR CARRY OUT A COMMAND OR SERIES OF STEPS

THE COMPUTER WILL EXECUTE THE ''RUN'' COMMAND IMMEDIATELY.

FILE

FILE

A COLLECTION OF RELATED RECORDS THAT ARE STORED TOGETHER ON A DISK

DISK FILES ARE SIMILAR TO THE FILES IN A FILE CABINET.

FILE NAME

FILE NAME

THE NAME UNDER WHICH A FILE IS STORED

THE FILE NAME ''MSA'' CONTAINS THE MEDICAL RECORDS.

FLOPPY DISK

FLOP-PY DISK

(SEE DISK)

FLOWCHART

FLOW-CHART

A DRAWING OR MAP THAT SHOWS THE STEPS NEEDED TO SOLVE A PROBLEM OR DESIGN A PROGRAM

A FLOWCHART IS THE FIRST STEP IN WRITING A PROGRAM.

FLOWCHART SYMBOLS

FLOW-CHART SYM-BOLS

OVAL - THE START/STOP SYMBOL; BEGINS OR ENDS A PROGRAM FLOWCHART

RECTANGLE - THE ACTION SYMBOL; INDICATES INSTRUCTIONS OR DIRECTIONS

DIAMOND - THE DECISION SYMBOL; USED FOR YES/NO QUESTIONS

PARALLELOGRAM - THE INPUT/OUTPUT SYMBOL

FORMAT

FOR-MAT

1) THE FORM IN WHICH INFORMATION IS ORGANIZED OR PRESENTED; 2) TO PREPARE A BLANK DISK TO RECEIVE INFORMATION BY DIVIDING ITS SURFACE INTO TRACKS AND SECTORS (SEE INITIALIZE)

I FORMATTED TWO DISKS SO I COULD COPY SOME GAMES ON THEM.

FORTRAN

FOR-TRAN

A PROGRAMMING LANGUAGE USED IN SCIENTIFIC AND MATHEMATICAL WORK

FORTRAN MEANS FORMULA TRANSLATOR.

GRAPHICS

GRAPH-ICS

INFORMATION PRESENTED IN THE FORM OF DRAWINGS, DIAGRAMS, OR CHARTS

THIS GRAPHICS PROGRAM USES 16 DIFFERENT COLORS.

HARD COPY

HARD COP-Y

A PRINTED PAPER COPY OF COMPUTER INFORMATION; SOMETIMES CALLED A PRINTOUT

HE NEEDS A HARD COPY OF THE REPORT BY MONDAY.

HARDWARE

HARD-WARE

THE PHYSICAL EQUIPMENT MAKING UP A COMPUTER SYSTEM

HARDWARE INCLUDES INPUT AND OUTPUT DEVICES, THE CPU, AND OTHER PERIPHERALS LIKE A PRINTER.

HOOKED UP

HOOKED UP

CONNECTED, ATTACHED

TERMINALS ARE USUALLY HOOKED UP TO THE MAIN COMPUTER BY TELEPHONE LINES.

IMMEDIATE MODE

IM-ME-DI-ATE MODE

USED TO GET A DIRECT ANSWER FROM THE COMPUTER WITHOUT USING LINE NUMBERS (SEE PROGRAMMABLE MODE)

HE CALCULATED 8^5 IN IMMEDIATE MODE.

INITIALIZE

IN-I-TIAL-IZE

TO PREPARE A BLANK DISK TO RECEIVE INFORMATION BY ELECTRONICALLY DIVIDING ITS SURFACE INTO TRACTS AND SECTORS

WHEN THE COMPUTER INITIALIZES A DISK, IT MAKES A WHIRLING SOUND.

INPUT

IN-PUT

1) TO TRANSFER DATA FROM AN INPUT DEVICE TO THE COMPUTER'S MEMORY (VERB)
2) INFORMATION OR DATA THAT IS ''PUT INTO'' THE COMPUTER (NOUN)

1) HE INPUT ALL THE STUDENT GRADES INTO THE COMPUTER.
2) WHAT KIND OF INPUT DID YOU ENTER?

INPUT DEVICE

IN-PUT DE-VICE

A DEVICE WHICH ALLOWS PEOPLE TO COMMUNICATE TO A COMPUTER (SEE DEVICE, OUTPUT DEVICE, I/O DEVICE)

THE KEYBOARD IS THE MOST COMMON INPUT DEVICE.

INPUT/OUTPUT DEVICE (I/O)

IN-PUT/OUT-PUT DE-VICE

HARDWARE THAT SENDS INPUT TO THE COMPUTER AND RECEIVES OUTPUT FROM IT

THE DISK DRIVE IS AN I/O DEVICE.

INSTRUCTION

IN-STRUC-TION

A COMPUTER COMMAND

''DELETE'' OR ''RUN'' ARE INSTRUCTIONS FOR THE COMPUTER.

INTERFACE

IN-TER-FACE

AN ELECTRONIC DEVICE AND/OR PROGRAM WHICH ALLOWS TWO DIFFERENT PARTS OF A COMPUTER SYSTEM TO ''COMMUNICATE'' WITH EACH OTHER (SEE CIRCUIT BOARD)

THE DISK DRIVES MUST INTERFACE PROPERLY WITH THE COMPUTER IN ORDER TO WORK.

KEYBOARD

KEY-BOARD

AN INPUT DEVICE WHICH HAS AN ARRANGEMENT OF LETTER, NUMBER, AND SYMBOL KEYS (SIMILAR TO A TYPEWRITER KEYBOARD)

THE TERMINAL KEYBOARD IS USED TO ENTER INFORMATION INTO THE COMPUTER.

KILOBYTE

KI-LO-BYTE

KILOBYTE = K = 1,024 BYTES OF INFORMATION (OFTEN APPROXIMATED TO 1,000 BYTES)

A COMPUTER WITH 16K OF MEMORY CAN STORE APPROXIMATELY 16,000 BYTES OF INFORMATION.

LANGUAGE

LAN-GUAGE

CODED COMPUTER INSTRUCTIONS WHICH PROGRAMMERS USE TO WRITE PROGRAMS (SEE COBOL, BASIC, FORTRAN, PASCAL, LOGO)

SOME COMPUTER LANGUAGES REQUIRE A LOT OF TRAINING IN ORDER TO USE THEM.

LOAD

LOAD

1) TO PUT A DISK INTO A DISK DRIVE AND BOOT UP
2) TO TAKE A PROGRAM FROM THE COMPUTER'S MEMORY TO USE

HE LOADED THE PROGRAM BY INSERTING HIS DISK INTO THE DISK DRIVE AND TURNING ON THE COMPUTER.

LOCK

LOCK

TO PROTECT A DISK FILE FROM BEING CHANGED OR ERASED

ALL OF THE FILES THAT CONTAINED TAX RECORDS WERE LOCKED.

LOOP

LOOP

A REPEATED SERIES OF INSTRUCTIONS

HE HAD SEVERAL LOOPS IN HIS PROGRAM WHICH DID CONTINUOUS CALCULATIONS.

LIST

LIST

TO SHOW SPECIFIED LINES OF A PROGRAM

TED LISTED HIS PROGRAM TO FIND THE BUG.

LOG OFF

LOG OFF

TO EXIT OR LEAVE A COMPUTER SESSION BY TYPING IN A SPECIAL WORD OR MESSAGE; SAME AS SIGN OFF

LOGGING OFF IS AN ORDERLY PROCEDURE TO FINISH A COMPUTER SESSION.

LOG ON

LOG ON

TO GAIN ENTRY TO A COMPUTER SYSTEM BY IDENTIFYING YOURSELF AND ENTERING A SPECIAL CODE ON THE COMPUTER TERMINAL; SAME AS SIGN ON

IN ORDER TO CONTROL WHO USES THE COMPUTER AND FOR HOW LONG, MOST COMPUTER SYSTEMS HAVE A METHOD OF LOGGING ON.

LOGO

LOGO

A PROGRAMMING LANGUAGE DESIGNED FOR CHILDREN THAT MAKES STRONG USE OF GRAPHICS.

IN LOGO, YOU USE A TURTLE TO DESIGN GRAPHICS.

MACHINE LANGUAGE

MA-CHINE LAN-GUAGE

A PROGRAM WRITTEN IN A FORM THE COMPUTER CAN UNDERSTAND DIRECTLY

''ASSEMBLER'' IS AN EXAMPLE OF A MACHINE LANGUAGE.

MAINFRAME

MAIN-FRAME

A VERY LARGE, STATIONARY COMPUTER DESIGNED FOR MANY USERS, TERMINALS, AND LANGUAGES (SEE MICROCOMPUTER, MINICOMPUTER)

MAINFRAMES ARE USUALLY FOUND IN LARGE CORPORATIONS AND GOVERNMENT INSTITUTIONS.

MEMORY

MEM-O-RY

PARTS OF THE COMPUTER THAT STORE INSTRUCTIONS OR DATA USED BY THE CENTRAL PROCESSING UNIT (CPU)

THE STANDARD SIZE MEMORY FOR MOST MICRO-COMPUTERS TODAY IS 64K, ALTHOUGH SOME HAVE AS LITTLE AS 2K AND OTHERS AS MUCH AS 512K.

MENU

MEN-U

A LIST OF CHOICES ON THE MONITOR SCREEN

FROM THE MENU, YOU CAN CHOOSE TO CONTINUE, STOP, OR SELECT ANOTHER PROGRAM TO RUN.

MICROCOMPUTER

MI-CRO-COM-PUT-ER

A SMALL, PORTABLE COMPUTER DESIGNED FOR A SINGLE USER (SEE MAINFRAME, MINICOMPUTER)

THE COMMODORE ''PET'' AND THE APPLE IIE ARE EXAMPLES OF MICROCOMPUTERS.

MICROPROCESSOR

MI-CRO-PROC-ES-SOR

A VERY SMALL SILICON CHIP CONTAINING THE ELECTRONIC PARTS NECESSARY FOR DOING ARITHMETIC AND LOGICAL OPERATIONS

ELECTRONICS COMPANIES MANUFACTURE MICROPROCESSORS FOR MICROCOMPUTERS.

MINICOMPUTER

MIN-I-COM-PUT-ER

A MEDIUM-SIZED COMPUTER DESIGNED FOR SEVERAL USERS, TERMINALS, AND LANGUAGES (SEE MAINFRAME, MICROCOMPUTER)

MINICOMPUTERS ARE USED IN MANY EDUCATIONAL INSTITUTIONS.

MODEM

MO-DEM

A DEVICE THAT ALLOWS THE COMPUTER TO TRANSMIT AND RECEIVE INFORMATION OVER TELEPHONE LINES

MODEM IS AN ACRONYM FOR MODULATOR-DEMODULATOR.

MONITOR

MON-I-TOR

THE DISPLAY SCREEN, CRT, OR TELEVISION A TV CONNECTED TO A COMPUTER IS USED AS A VIDEO MONITOR.

OFF-LINE

OFF-LINE

NOT CONNECTED OR CONTROLLED BY THE COMPUTER'S CPU (CENTRAL PROCESSING UNIT)

THE PRINTER WAS OPERATING OFF-LINE TO THE COMPUTER.

ON-LINE

ON-LINE

CONNECTED OR CONTROLLED BY THE COMPUTER'S CPU (CENTRAL PROCESSING UNIT)

YOU ARE ON-LINE TO A LARGE COMPUTER WHEN YOU ARE LOGGED ON TO IT.

OPERATING SYSTEM

OP-ER-AT-ING SYS-TEM

SOFTWARE THAT INTERPRETS THE COMMANDS TYPED INTO THE COMPUTER AND PROVIDES THE COMPUTER'S RESPONSES

DIFFERENT OPERATING SYSTEMS COME WITH EACH TYPE OF COMPUTER.

OUTPUT

OUT-PUT

DATA TRANSFERRED FROM COMPUTER MEMORY TO OUTPUT DEVICES

DATA WAS TRANSFERRED FROM MEMORY TO THE PRINTER WHICH PRODUCED A HARD COPY OF THE OUTPUT.

OUTPUT DEVICE

OUT-PUT DE-VICE

A DEVICE WHICH ALLOWS THE COMPUTER TO COMMUNICATE TO THE USER (SEE DEVICE, INPUT DEVICE, I/O DEVICE)

THE MONITOR IS A COMMON OUTPUT DEVICE.

PASCAL

PAS-CAL

A PROGRAMMING LANGUAGE USED IN BUSINESS AND SCIENCE (SEE LANGUAGE)

PASCAL IS NAMED AFTER THE FRENCH MATHEMATICIAN, BLAISE PASCAL.

PERIPHERALS

PE-RIPH-ER-ALS

ATTACHMENTS TO A COMPUTER

PERIPHERALS ARE COMPUTER-RELATED EQUIPMENT SUCH AS DISK DRIVES AND PRINTERS.

PRINTER

PRINT-ER

A HIGH-SPEED MACHINE THAT TYPES OUT A HARD COPY OF SELECTED INFORMATION IN THE COMPUTER

PRINTERS ARE USUALLY OF TWO TYPES: PARALLEL OR SERIAL.

PLOTTER

PLOT-TER

A DEVICE THAT CAN DRAW LINES AND DOTS ON A PIECE OF PAPER

PLOTTERS CAN BE PROGRAMMED TO DRAW IN COLOR.

PROGRAM

PRO-GRAM

1) A SET OF INSTRUCTIONS GIVEN TO A COMPUTER (NOUN)
2) TO WRITE A SET OF INSTRUCTIONS FOR THE COMPUTER (VERB)

HE PROGRAMMED THE COMPUTER TO PLAY FOUR GAMES OF CHESS AT ONCE.

PROGRAMMABLE MODE

PRO-GRAM-MA-BLE MODE

USED TO PROCESS INFORMATION WITHIN A PROGRAM (SEE IMMEDIATE MODE)

IN PROGRAMMABLE MODE, YOU MUST USE LINE NUMBERS.

PROGRAMMER

PRO-GRAM-MER

A PERSON WHO WRITES COMPUTER PROGRAMS

THIS PROGRAMMER KNOWS FOUR PROGRAMMING LANGUAGES

PROMPT

PROMPT

A SYMBOL OR WORDS USED TO INDICATE WHEN A COMPUTER IS READY TO ACCEPT INPUT

THE WORD ''READY'' IS A PROMPT ON THE PET COMPUTER.

RANDOM ACCESS MEMORY (RAM)

RAN-DOM AC-CESS MEM-O-RY

A TYPE OF MEMORY WHICH IS ACCESSED DIRECTLY BY THE USER.

RAM IS LOST IN THE COMPUTER'S MEMORY WHEN THE COMPUTER IS TURNED OFF.

READ

READ

TO SEND INFORMATION TO THE COMPUTER'S MEMORY OR PROCESSOR

THE COMPUTER READS INFORMATION THAT IT RECEIVES FROM EXTERNAL DEVICES LIKE A KEYBOARD OR DISK DRIVE.

REBOOT (OR WARM START)

RE-BOOT

THE PROCESS OF RESTARTING THE COMPUTER OR CHANGING TO A NEW SOFTWARE PROGRAM AFTER THE POWER IS ALREADY ON

TO REBOOT THE APPLE IIE, PRESS AND HOLD DOWN THE CONTROL, OPEN APPLE, AND RESET KEYS.

RETRIEVE

RE-TRIEVE

TO RECALL (CALL BACK) DATA FROM THE COMPUTER

KEN RETRIEVED THE DATA HE WORKED ON YESTERDAY BEFORE STARTING A NEW PROJECT.

READ ONLY MEMORY (ROM)

READ ON-LY MEM-O-RY

PRE-SET INSTRUCTIONS THAT ARE PUT INTO THE COMPUTER'S MEMORY BY THE MANUFACTURER AND NOT DIRECTLY AVAILABLE TO THE USER

ROM REMAINS EVEN AFTER THE COMPUTER'S POWER HAS BEEN TURNED OFF.

ROUTINE

ROU-TINE

A SET OF INSTRUCTIONS THAT CAUSE CERTAIN OPERATIONS TO BE CARRIED OUT

A ROUTINE WAS ADDED TO THE PROGRAM TO RECORD STUDENT GRADES.

RUN

RUN

TO CARRY OUT A PROGRAM OR INSTRUCTIONS BY A COMPUTER; TO EXECUTE

TO RUN YOUR NEW PROGRAM, JUST TYPE "RUN".

SAVE

SAVE

TO TRANSFER DATA FROM COMPUTER MEMORY TO A STORAGE DEVICE FOR LATER USE

THE MOST COMMON WAY TO STORE DATA IS TO SAVE IT ON A DISK.

SECTOR

SEC-TOR

PART OF A TRACK ON A DISK

A TYPICAL FLOPPY DISK HAS 10 SECTORS.

SCROLL

SCROLL

TO MOVE TEXT UP AND DOWN THE MONITOR SCREEN

SCROLL TO THE NEXT PAGE TO SEE THE END OF THE LETTER.

SIGN OFF

SIGN OFF

TO QUIT WORK ON A COMPUTER TERMINAL; SAME AS LOG OFF

AFTER COMPLETING YOUR WORK ON THE COMPUTER, YOU MAY SIGN OFF WITH THE WORD "BYE".

(SEE LOG ON)

SIGN ON

SIGN ON

SOFTWARE

SOFT-WARE

PROGRAMS OR SEQUENCES OF INSTRUCTIONS THAT TELL A COMPUTER WHAT TO DO

SOFTWARE IS ''SOFT'' BECAUSE IT IS NOT A MECHANICAL DEVICE.

SOFTCOPY

SOFT-COPY

OUTPUT THAT IS NOT IN PRINTED FORM

A DISPLAY ON THE MONITOR SCREEN IS A SOFTCOPY.

STORE

STORE

TO PUT DATA INTO MEMORY OR KEEP FOR LATER USE BY THE COMPUTER; SAVE

STORE THE OFFICE BUDGET ON ANOTHER DISK BEFORE ADDING ANY NEW DATA.

STORAGE DEVICE

STOR-AGE DE-VICE

A DEVICE OR MATERIAL THAT CAN BE USED FOR HOLDING INFORMATION; A STORAGE UNIT

A FLOPPY DISK IS A STORAGE DEVICE.

TELECOMMUNICATIONS

TEL-E-COM-MUN-I-CA-TIONS

THE ELECTRONIC TRANSMISSION OF INFORMATION ACROSS LONG DISTANCES USING TELEPHONE LINES, MICROWAVES, OR SATELLITE TRANSMISSIONS

WE WATCHED A SPECIAL PROGRAM FROM WASHINGTON BY A TELECOMMUNICATIONS HOOKUP TO ARIZONA.

TERMINAL

TER-MIN-AL

A KEYBOARD AND MONITOR CONNECTED TO A MAIN FRAME COMPUTER USUALLY BY TELEPHONE LINES

MORE THAN ONE PERSON CAN USE A COMPUTER AT A TIME THROUGH THE USE OF TERMINALS.

TEXT

TEXT

INFORMATION PRESENTED IN THE FORM OF CHARACTERS OR LETTERS THAT IS READABLE BY HUMANS

FIVE PAGES OF TEXT HAD TO BE CHANGED IN THE CONTRACT.

TIME-SHARING

TIME-SHAR-ING

A COMPUTER SYSTEM IN WHICH MANY PEOPLE CAN USE A COMPUTER AT THE SAME TIME

ALL OF THE OFFICES IN THE BUILDING ARE TIME-SHARING A SINGLE COMPUTER TO REDUCE COSTS.

TRACK

TRACK

A PORTION OF THE FLOPPY DISK CONSISTING OF A CIRCULAR BAND

A TYPICAL FLOPPY DISK HAS 40 TRACKS.

TRANSPORTABLE

TRANS-POR-TA-BLE

THE ABILITY OF SOFTWARE DEVELOPED ON ONE COMPUTER TO BE USED ON ANOTHER ONE; SAME AS COMPATIBLE

IBM SOFTWARE WILL ONE DAY BE TRANSPORTABLE TO THE APPLE COMPUTER.

TUTORIAL

TU-TO-RI-AL

A PROGRAM DESIGNED TO TEACH THE USER NEW CONCEPTS

A TUTORIAL CAME WITH MY WORD PROCESSING PROGRAM.

UP

UP

WHEN THE COMPUTER IS WORKING (SEE DOWN)

THEY FINALLY GOT THE COMPUTER UP AFTER BEING DOWN FOR THREE HOURS ON MONDAY.

UPDATE (1)

UP-DATE

TO CHANGE DATA IN A FILE

UPDATE THE ADDRESS FILES BY ADDING THESE NEW NAMES.

UPDATE (2)

UP-DATE

TO CHANGE OR ADD A PART TO A COMPUTER SYSTEM

TO UPDATE MY COMPUTER, I'M GOING TO ADD A SECOND DISK DRIVE.

USER

US-ER

THE PERSON OPERATING OR INTERACTING WITH A COMPUTER SYSTEM

THERE WILL BE ONE USER FOR EVERY COMPUTER IN THIS CLASSROOM.

USER FRIENDLY

US-ER FRIEND-LY

THE EASE WITH WHICH A COMPUTER PROGRAM CAN BE USED BY SOMEONE NOT FAMILIAR WITH IT

IF A PERSON MAKES AN ERROR, A USER FRIENDLY PROGRAM WILL PROVIDE INFORMATION ABOUT HOW TO CORRECT IT.

WORD PROCESSOR

WORD PRO-CES-SOR

A PROGRAM FOR TYPING AND CHANGING TEXT

A WORD PROCESSOR MAKES IT VERY EASY TO ADD OR DELETE INFORMATION.

WRAPAROUND

WRAP-A-ROUND

THE AUTOMATIC CONTINUATION OF TEXT FROM THE END OF ONE LINE TO THE BEGINNING OF THE NEXT

IN MOST WORD PROCESSING PROGRAMS, THE LETTERS AUTOMATICALLY WRAPAROUND TO THE NEXT LINE WITHOUT HAVING TO PRESS THE RETURN KEY.

WRITE

WRITE

TO TRANSFER INFORMATION FROM THE COMPUTER TO A DISK, PRINTER, OR MEMORY; RECORD

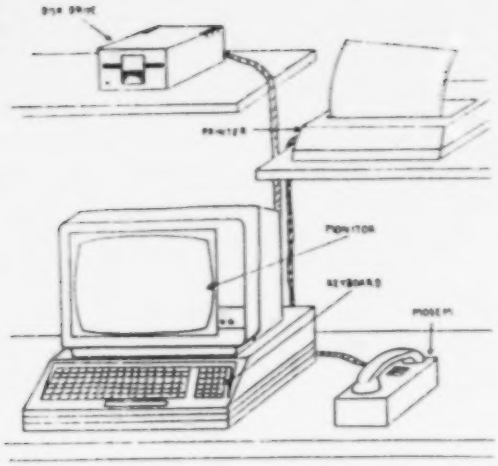
THE DISK DRIVE WRITES INFORMATION FROM THE COMPUTER ONTO THE DISK FOR STORAGE.

WRITE PROTECT

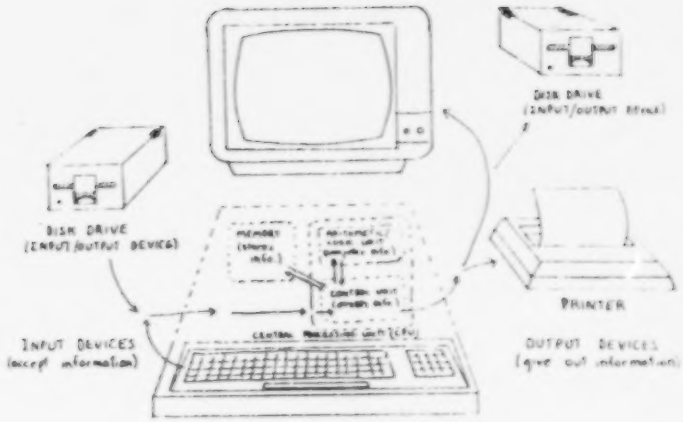
WRITE PRO-TECT

TO PROTECT INFORMATION ON A DISK FROM BEING CHANGED OR DAMAGED

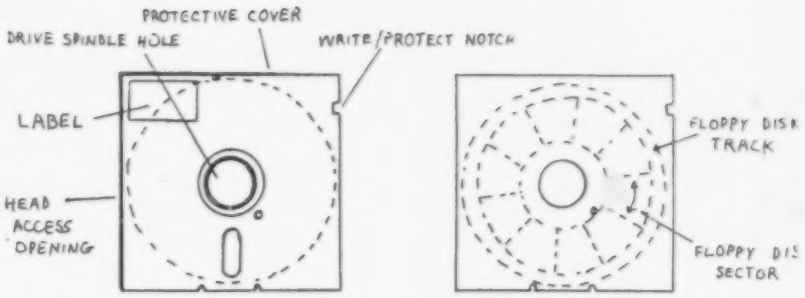
COVERING THE DISK'S WRITE PROTECT NOTCH WITH A SPECIAL TAPE WILL PREVENT ANY NEW INFORMATION BEING ADDED TO THE DISK.



THE HARDWARE COMPONENTS OF A COMPUTER



HOW A COMPUTER WORKS



"OUTSIDE" A FLOPPY DISK "INSIDE" A FLOPPY DISK

DISK "DON'TS"

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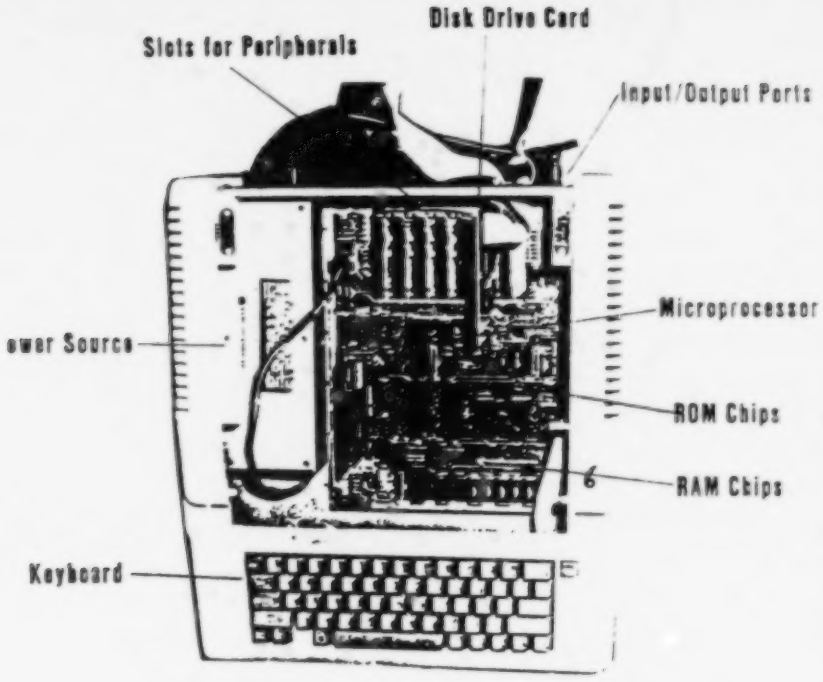
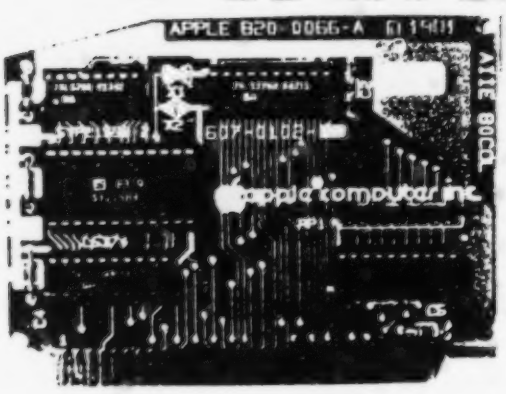


INSIDE A COMPUTER



Circuit Board